AMERICAN AGRICULTURIST,

FOR THE

Farm, Garden, and Household.

"AGRICULTURE IS THE MOST HEALTHFUL, MOST USEFUL, AND MOST NOBLE EMPLOYMENT OF MAN."—WASHINGTON.

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American Agriculturist.

For the Farm, Garden, and Household.

A THOROUGH-GOING, RELIABLE, and PRACTICAL Journal, devoted to the different departments of SOIL CULTURE—such as growing FIELD CROPS; ORCHARD and GARDEN FRUITS; GARDEN VEGETABLES and FLOWERS; TREES, PLANTS, and FLOWERS for the LAWN or YARD; care of DOMESTIC ANIMALS, etc., and to HOUSEHOLD LABORS, with an interesting, instructive department for CHILDREN and YOUTH.

The Editors are all PRACTICAL WORKING MEN.

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Notes and Suggestions for the Month.

June is the month of most rapid growth and the Maize fields, which have looked yellow and poor during May, under the hot suns of this month unfold their leaves like armies with banners, and so other crops, if they are in open and well-worked soils, push forward into leaf, and blossom, and fruit. We have work enough to finish planting, to keep down the weeds, and to work the surface, so that the air may always have free access to the roots of the crops. The grass has made a great growth in many localities during the past month, and where mowing ground has been well prepared for irrigation, the second heavy crop of hay is by this time ready for the scythe. The forwardness of the season has enabled farmers to get well ahead with much of their work, and there is less excuse than usual for lack of thoroughness of culture. The powerful rains which may have hindered farm work somewhat, are very likely to be followed by dry weather in June, for which deep tillage and frequently working the soil are the only remedies.

Barns and Sheds.—Sweep thoroughly and put in order for hay and other crops. Where a small quantity of hay or straw remains in the bottom of the mow, pitch it up aloft, where it may be used in the former part of the foddering season. Remove manure wherever it is in contact with wood-work, and see that driving storms do not wet the frame timbers. Clean and paint eaves troughs, and remove limbs of trees within a yard of the sides or roofs of buildings.

Barn-yard.—Turn all water from the roofs of buildings or other sources away from the barn-yard. If the ground be wet, make a good underdrain entirely around, and excavate the middle, puddling it with clay protected by cobble stones, so as to retain all the liquid manure.

Barley.—Send a careful man and pull all dock, winter cress, wild mustard, etc., from the growing grain. If land is in good heart where winter wheat has failed, barley may be sowed even in June, and will yield a fair crop.

Beans.—Where a hill of Indian corn has failed, plant three hills of early beans. If rows be far apart, a row of beans is often planted between them at the last dressing with a horse hoe.

Beets.—Mash lumps in the soil with a wooden mallet, a few hours after a shower—this will be almost equal to a hoeing—pull up all weeds near the young plants. Good crops may be raised even when planted in June, if the soil and cultivation be good.

Butter.—Give cows an abundance of sweet grass and clean water, and access to salt; see that boys and dogs do not worry them; milk regularly with clean hands; keep milk in clean and sweet vessels, and in a cool, pure apartment; churn often; work the butter well with anything but the bare hands; use only the purest and best salt; pack in clean jars or tubs; keep cool, and the butter will be equal to prime "Orange County."

Cabbages.—Put out the plants in good season; apply a heavy dressing of horse manure, well worked into the soil; hoe mornings while the dew is on, working over the earth a few inches deep; and we will almost guarantee large, hard heads. Insects may make the result doubtful.

Carrots.—Pull all weeds near the young plants when the soil is wet. Carrots require clean cultivation. Where the seed failed to come up, put in turnips or onions. See "How to Raise Carrots" in May number.

Cheese.—Read article on Cheese, page 189.

Corn.—Keep cultivators and horse hoes in operation until the corn becomes large enough to shade the ground. Hot and dry weather is the best time to subdue grass and weeds. Read article on cultivating corn on page 178.

Clover Seed.—Read the article on the management of Clover Seed on page 182.

Cattle.—See that all cattle have access to pure water. Where they drink at a pond, large poles or sticks of timber should keep them from going into the water to stand, as they usually dung immediately after drinking. Do not feed too many animals on the same ground. One good cow, well fed, will yield more milk than two cows on short pasture.

Calves.—Keep calves in clean and dry yards or pens, and mow a little grass daily for them. June is one of the best months to commence improvements in neat cattle. Where calves are allowed to suck, put a little wheat flour in one end of a small trough and salt in the other end, where calves can reach it. They soon eat meal.

Cellars.—Clean house and barn cellars; wash the windows; whitewash the walls, and sprinkle quicklime where there is dampness or impurity.

Dairy.—Look out for improvements in selecting cows for the dairy as well as making butter and cheese. Make a horse or sheep do the churning.

Flax.—See that water does not stand at all on any part of the field. Pull large weeds while the plants are small. Review the article on Flax Culture in the April number.

Grain Fields.—Keep fences in good repair around them, and confine turkeys and all other fowls that persist in going on the grass, as they will break down and destroy more than they are worth.

Grass Seed.—Fields may be plowed and sowed with grass seed this month, without any kind of grain. Still it is better to sow two or three pecks of rye per acre, to partially shade the young grass.

Haying.—Commence haying in good time. Where there is much grass to cut, some of it must be mowed before it is really fit; otherwise a good proportion will become too ripe. Grass will make the best hay if cut when the stalks are full grown and the heads are in full bloom. When there are weeds among the grass, cut it before their seeds are formed. Grass is much less liable to be injured by hot and dry weather if cut when quite green.

Hoove.—Watch all animals that feed on red clover, and prevent this dangerous disease which comes from over-feeding. "See Basket."

Implements.—During rainy and leisure days examine mowers and reapers to see if they are in running order. Take them apart; remove gum and dirt from the journals and boxes; oil afresh, and screw up all nuts and tighten loose rivets. The efficiency of tools and implements depends almost altogether on their condition.

Manure.—Prepare compost for winter grain and top-dressing for grass land. Collect barnyard manure into covered quarters, or protect as much as practicable from alternate rain and sunshine. Barnyard manure should be forked over to facilitate rotting; and where it is so deep as to fire-fang, water or liquid from some part of the yard, pumped upon it.

Millet.—Where the soil is moderately fertile, sow millet at any time previous to the 25th of the month in our latitude. From 8 to 12 quarts per acre is sufficient unless the seed be large. Millet grows rapidly in mellow soil and bears drouth well.

Oats.—Mow off Canada thistles, and any other weeds that appear above the oats. This so checks their growth that they injure the crop but little.

Oxen.—Feed workers a few quarts of meal every day, whether they labor or not, as it will give them strength, make them endure the heat better and increase their market value more than the worth of the meal. Never allow ill-natured drivers to worry and beat oxen while at work. Provide such teamsters with a soft leather lash and limber stock, with which they cannot strike a hard blow.

Pastures.—Do not feed off permanent pastures too closely the former part of the season, unless there is a large proportion of Kentucky blue grass, which is better to be kept short. If grass gets the start of stock, and begins to head out, it will make much better pasture to mow off all the seed stems, as animals will not relish them; and when seed is allowed to form, a large portion of the vital energies of the plant, which are exhausted in producing the seed and stems, would make excellent grass.

Potatoes.—Cultivate thoroughly and hoe well before the tops begin to fall over, and sprinkle a handful of wood ashes around the stems of every hill. Never allow careless laborers to strike their hoes into the ground near the hills, as roots that would bear tubers, may be cut off. Potatoes do not need root pruning If weeds close to the hills are too large to be covered with earth, pull them.

Poultry.—To gratify the secretiveness of hens, make nests where they can not be seen by other fowls, when they are laying or sitting. If nests be too deep, eggs will rest on each other, which should never occur. See "Basket."

Peas.—Sow a part of an acre the last of the month for seed. If sowed soon enough to mature before early frost, they will be free from bugs.

Poultry.—Feed well; let them out of the yard before sunset daily; supply them with a box of sharp gravel, where there is none in the soil. Whole grain should be soaked at least twenty hours for them; and if ground, it will go much farther.

Ruta-Bagas.—Do not fail to raise a few square rods of them for stock next winter. Pulverize the soil thoroughly, manure it well, and sow the seed in drills two feet apart, as soon as the ground is dry enough to work after a good shower. Then a crust of earth will not prevent them from coming up.

Roofs.—Examine roofs of out-buildings when it rains. Leaky places will usually be found where a shingle has been split directly over a joint of the next course below. In such a case another shingle may be driven beneath the split one.

Rye.—Spring rye, two bushels per acre, may be sowed during this month, to be cut for horse-feed before early frosts.

Rotation of Crops.—Raise crops that are best adapted to the soil, rather than attempt to adapt the soil to the crops. Every farmer should adopt some kind of a rotation, if he has not already done so, as this is one of the fundamental principles of scientific agriculture. See "Basket."

Sheep.—Let sheep have access to salt in a water-tight tub, or trough. When salted only occasionally, they consume too much for their health. Protect from cold storms for some weeks after shearing. Apply a little pine tar to their noses to repel the fly. Separate bucks from ewes, or fetter their fore-legs, about five or six inches apart, that they may be impotent to harm. Designate the age and character of each sheep by significant marks on the rumps or shoulders. A figure (1, 2 or 3, etc.) on the shoulder may signify a ewe and her age, and one on the rump, a wether and its age.

Swine.—Pigs designed for pork next fall should be separated from the sows as soon as they will eat readily. Keep them in moderately close quarters; as, when running about in large enclosures, they will expend a great deal of material, without adding proportionately to their growth. There is nothing better than milk, oat and barley meal and wheat flour unbolted, to make pigs grow. It is sometimes more economical to feed wheat flour than oat meal to pigs. Where pigs are chiefly valuable as manure makers, see that they have enough muck, sods, weeds, etc., to work over.

Sorghum.—When the plants are young they are very tender. They need dressing and hoeing with care. Careless men and boys will often retard their growth by cutting off the roots, and burying the leaves. If the ends of the leaves be covered with earth the growth will be checked.

Weeds.—Wage an unceasing warfare against weeds and bushes this month. Mow them close to the ground; cut them with hoes, or pull them. It injures Canada thistles, ox-eye daisies, and other perennials materially to cut them close to the ground just before they blossom. We tell workmen in our employ that a sharp, steel hoe is poisonous to weeds, when it cuts them off below the surface of the ground.

Wagons—Keep them well protected from rains and sunshine, as the continued influence of these injures vehicles more than the ordinary use. Rain will hurt them but little if they are kept in the shade. A liberal coat of linseed oil on the wheels will often save dollars for resetting the tire.

Wool.—Keep the floor clean while shearing; tie it up neatly; arrange the fleeces to show advantageously; and, keep it in a clean apartment where mice or rats will not carry chaff and straw among it.

Work.—Keep in advance rather than behind your work. Perform every operation in good time and in a thorough manner.

Wood.—Split and pile whatever firewood is exposed to the weather, so that it may dry out before it becomes water-soaked.

Wheat.—Cut off all heads of rye, cockle, chess, and pull gromwell (incorrectly called pigeon-weed), from the growing crop.

Work in the Orchard and Nursery.

It seldom happens that the nurseryman is more crowded than he has been the present season. The sales were unusually large, and the time for filling orders was, by the forwardness of the season, rendered very brief. The benefit of providing all possible appliances for facilitating work, on the part of the nurseryman, and the early sending in of orders, on that of the purchaser, were never more strikingly manifest than they were this spring, and those who have suffered from past neglect of either precaution, should profit by the lesson.

Birds.—Encourage the visits of insect-eating birds, and destroy sap-suckers and birds of prey.

Black Knot.—The only remedy is the knife. If it occurs on large limbs, cut it out when it first appears, down to perfectly sound wood, and cover the wound with grafting wax. If the trouble is too deep for this, or is upon small limbs, off with the limb and burn it at once, to keep the spores from propagating. The knot is a minute fungus, and all the talk about diseased sap and curculios, as the cause, is fancy, opposed to established fact.

Budded Stocks.—These will need looking to, not only to remove the suckers which spring from the stock, but to see that the rapidly growing shoot is properly secured against breaking by wind, or from its own weight. The portion of the stock left above the bud is usually sufficient to tie the shoot to, but where it is not, place a stake for tying.

Evergreens.—In ordinary seasons, these may be removed this month, but at the present time they will probably be too far advanced. If the attempt is made, the precautions given last month should be followed. Keep the grass away from around the newly planted ones. Trim and shape trees and hedges as recommended on page 186.

Grafts.—Those inserted this spring will need attention, to replace the covering, if removed, and support or check very rampant growing shoots. Rub off any buds that shoot up near the graft.

Insects.—These are now making havoc with the foliage. If a caterpillar's tent is observed, do not rest until it and its builders are destroyed. Pulling the nest off with the hand, and trampling under foot, is quite as effective as the use of the many contrivances recommended. A swab, wet with some disagreeable liquid, may often be used to advantage. See article elsewhere on the use of benzine, and on the use of white hellebore upon the currant worm. Moths, which are about looking for a place to lay their eggs, may be killed in great numbers by setting a lighted lamp in a large pan of water at night. Jar the plum trees daily, and catch the curculios on a sheet and kill them.

Layers.—The new growth of shrubs may be treated as directed on page 187.

Labels.—Trees when sent from the nursery frequently have the labels secured so firmly that whenever the limb increases slightly in size, a troublesome stricture is made by the wire cutting into the bark. It is well to look at once to the labels of newly set and all other trees, and see that no trouble can arise from this cause.

Manure.—A top-dressing of manure, spread over the roots of fruit trees, will help the growth of the wood and the developement of the fruit.

Mulch.—Newly planted trees, especially, need it. Sufficient is said on page 186.

Pinching.—The shape of a tree is easily modified by a little care when it is young. By removing those young shoots not needed, and stopping the growth of those disposed to grow too long, by pinching off the end, the form of the tree is quite under control, and much pruning is avoided.

Seedlings.—Young seedlings of forest trees, and evergreens especially, need shading by some of the methods mentioned on page 186. The little evergreens will be benefited by sifting a layer of sand, or light earth, over them, to cover the stems up as far as the seed-leaves.

Thinning.—Do not allow any fruit tree to be injured by over-bearing. It will pay besides, in the increased size and beauty of the remaining fruit.

Weeds.—Nothing looks worse than neglected nursery rows. Use the plow and cultivator so rigged that no injury can be done to the stock by the horse or whiffletrees.

Kitchen Garden.—Everything, weeds included, is now growing as if for the fun of the thing. The very early start, in this neighborhood about two weeks, rather disarranges our calculations in preparing the calendar, and could we have known that the season would have got so far ahead of time, our May directions would have been rather more in accordance with it. Even in this forward season, it is not too late to sow okra, melons, and those things which grow all the better if they have a warm soil from the start. An article on sowing for succession, on page 187, may afford some useful hints.

Asparagus.—The cutting ought not to be continued much after the first of June, the present year. It is a mistake to exhaust the roots by excessive cropping. Keep the bed free of weeds until the tops shade it.

Beans.—Sow for a succession for stringing and shelling. The main crop for dry beans may be put in. Limas may still be planted.

Cabbages, Cauliflower, and Broccoli.—Set out as directed on page 186. Forward the growing crop by frequent hoeing and liquid manure. Destroy caterpillars when young.

Carrots may still be sown. Hoe between the rows as soon as the plants can be seen, and when sufficiently large, thin to from 3 to 6 inches in the row. See article on page 179.

Celery.—The earliest crop may be set in trenches 2 feet deep and one foot wide, with the soil at the bottom well enriched. Water in dry weather.

Corn.—Plant every two weeks for a succession.

Capsicums, or Peppers.—Set in a warm, rich spot.

Cucumbers.—Plant the main crop for pickles the middle or last of the month, putting in plenty of seed to guard against loss from insects. Surround the young plants by frames, as recommended last month, page 155. Hoe until the vines are too large.

Egg Plants.—These need the best of soil and culture, in cold climates, to forward them so that the fruit will perfect in season. Hoe the earth towards the plant. Set at least two feet apart.

Endive.—Sow in the same manner as lettuce, and thin or set out the plants so that they will be a foot apart each way.

Lettuce.—Transplant to good soil, and sow seed frequently in a cool place to keep up a succession.

Melons.—Treat as directed above for cucumbers.

Onions.—Thin to 3 or 4 inches, and keep all weeds from the bed. Watering with hot water and with gas liquor, as well as heavy mulching with sawdust, and sprinkling with salt and ashes, have each been claimed as a "sure cure" for the maggot. If the potato, or other early sorts, show a wilting of their leaves, it is an indication that they are ready to pull.

Parsnips.—As soon as the plants are large enough to see the rows, the soil should be stirred, and when large enough to handle, weeded and thinned.

Peas.—Sow for the late crop in deeply worked soil. Set brush before the vines fall over. Save the earliest and best of the early sorts for seed.

Potatoes.—Hoe and give a dressing of plaster.

Radishes.—Sow at intervals for succession.

Rhubarb.—Keep the beds clean, and cut off the flower stalks as soon as they show themselves. Dry or preserve a supply for winter.

Ruta-Baga.—Sow in well manured ground, the latter part of June. Bone dust is good for them.

Salsify.—Treat the same as carrots.

Spinach.—Sow for succession. The New-Zealand is best for summer use.

Squashes.—Plant in manured soil, as last month.

Sweet Potatoes.—Prepare the ground and set the plants according to the methods given last month on pages 144 and 154.

Tomatoes.—Transplant and pinch in the rampant branches. See method of training described last month on page 154.

Watering.—Do not water unless the plants are suffering, except it can be continued until rain comes. The proper use of the hoe will help plants through a drouth in a wonderful manner. In watering with liquid manure, have it weak enough and apply frequently.

Weeds.—These are blessings if hoed up, but they punish the lazy and careless by condemning them to eat poorly grown vegetables. Hoe if the ground is weedy; hoe if the soil bakes after a shower, and if neither of these reasons present themselves—hoe for the sake of the hoeing.

Flower Garden and Lawn.—Vegetation in this as in all other departments is advanced beyond ordinary seasons, and the work must be pushed accordingly. Grass has grown at a prodigious rate, and the cutting should be more frequent, in order to secure a close and velvety turf.

Annuals.—Sow the tender ones and transplant those large enough. The bloom of many kinds may be much prolonged by cutting off the flowers as soon as they have passed their prime, and allowing no seed to be produced.

Bulbs.—Continue the foliage of the spring blooming kinds in a growing state as long as possible by good cultivation, and when it withers take up the bulbs, dry them and put them away in papers in a dry place, free from mice, until fall planting.

Carnations.—Propagate by layers, as noted on page 187, and by cuttings. Keep flowering plants well tied up. Sow seeds.

Climbers.—See that those which do not cling of themselves, are properly tied, to prevent being thrown down by winds, but avoid all stiffness in training them. Sow seeds of annual ones. Be careful to have the supports of all climbers strong enough for the weight of foliage, and to resist winds.

Dahlias.—Plant in rich soil. It is not well for them to flower early, as they should be kept growing all summer, in order to secure a fine show of flowers in fall. Water in dry weather.

Geraniums.—Set out and keep them in good shape by cutting.

Gladiolus.—These are often thrown down by the weight of the flower cluster. Stake the tall growers.

Grass, whether upon the lawn or in edging, needs frequent clipping, and all margins neat trimming. Root out all coarse weeds.

Gravel.—Hoe, rake and roll when weeds appear.

Hoe and Rake.—Use these implements, not only to kill weeds, but to loosen the soil, and thus obviate the necessity for much watering. If the soil is disposed to bake on the surface after a rain, loosen it up with the rake.

Layering.—This may be done on shrubs and herbaceous plants at any time, when there are suitable shoots. The layer should be put in good rich soil. See remarks on page 187.

Potted Plants.—These need shelter from the winds and burning sun, as noted on page 186. Pots not plunged must have regular waterings, or the roots will get dry and the plants suffer.

Phloxes.—Multiply the finer herbaceous sorts by making cuttings of the stems before flowering.

Roses.—Shorten stems of perpetuals after flowering several inches, and new shoots will start for late bearing. Kill insects as heretofore directed.

Transplanting.—In dry weather it is necessary to fill the holes with water before setting the plants, and to shade for a few days, but uncover at night.

Green and Hot-Houses.—Everything that is to be put out of doors, will probably be out by this time. The house should be put in complete order and the plants that are left inside receive the best attention.

Azaleas.—The new growth should be forwarded by syringing and very weak liquid manure. Shape the plants by pinching, and shade from hot sun.

Camellias.—Remove to a partial shade. See page 186. Syringe frequently. Look out for and destroy mealy bug. Inarch when the wood hardens.

Cuttings.—Provide for a stock of geraniums and such things by making cuttings.

Chinese Primroses.—Sow seeds, divide roots, and put established plants in a shady frame.

Potting.—When shrubs make a sickly growth, remove the plant from the pot and wash all the earth from the roots, and repot with fresh soil. Secure a good stock of sods and stack them up to decompose for potting soil.

Seedlings.—Pot off any that are large enough.

Water.—Keep the air of the house properly moist by using the syringe. Small pots dry out quickly.

Fruit Garden.—From present prospects there will be an abundance of fruit of most kinds, to repay the labor of the cultivator.

Currants.—By removing superfluous growth as it starts, much pruning will be saved. Take off useless suckers. If, as is often the case, green fruit will bring more than ripe, it is best to market it early. See article on the currant worm on page 187. Keep the soil around the bushes well hoed.

Gooseberries.—These do better where they are partially shaded. A free application of sulphur, or water as hot as the hand can bear, to which wood ashes have been added, in the proportion of a quart to a pailful, may be tried, if mildew appears.

Grapes.—If vines set this year show fruit, remove it, however reluctant you may be to do so. All the energies of the vine are needed to form wood and roots for next year. Seedlings, young vines from cuttings, and layers are to be kept tied up, and the growth of the laterals kept pinched back to one leaf. Vines fruiting for the first time, ought not to be allowed to overbear. One bunch to the shoot is better than more. Fill up the trench over layers, made as directed last month. Insects will need killing, and use sulphur freely upon all vines where mildew appears. A bellows is made for the purpose, like a common kitchen bellows, with a hole for the introduction of the sulphur, and without a valve. The nozzle is of tin, and quite wide, and the end is curved to facilitate the application to the under side of the leaves. By means of this implement, and any one can contrive to make a substitute, a properly trained vine can be completely dusted in a very short time.

Pears.—The shaping of the tree, as well as its preparation for future fruitfulness, is secured by proper summer pinching. Sufficient directions were given in January, on page 17. The slug usually appears this month. A dusting of dry air-slaked lime will kill them, or the powdered white hellebore may be tried.

Strawberries.—Plantations set this spring should be kept clean of weeds. The treatment will depend upon whether fruit or an increase in the number of plants is most desired. If the greatest amount of fruit be the object, the runners should not be allowed to grow, but if more plants are required, give the runners good soil to strike in. If the mulch is not already on, put on straw, tan, corn stalks, or other material, to keep the fruit clean. Have all boxes, crates, etc., plainly marked, and in filling the boxes, do not put all the best berries on top. Those who are near enough to do so, should exhibit at our Strawberry Show.

Cold Grapery.—Open the house early in the morning, shut up early, and endeavor to keep the temperature at about 85° or 90° at midday, allowing the change from the night temperature to this to be very gradual. Avoid sudden changes. While the vines are in flower, the syringing overhead should be discontinued. The distribution of the pollen is aided, and more thorough fertilization secured by giving the bunches a shake every morning by means of the finger. After the berries are set, give a good syringing to remove the remains of the flowers. Water freely. The number of bunches to be left upon the vine will depend

upon its strength, but one is sufficient upon each spur. The end of the shoot is stopped by pinching it off at the third or fourth leaf beyond the bunch. The fruit is to be thinned when it is about the size of peas, removing half or more according to the variety. Tie up the branches.

The Apiary for June.—*Prepared by M. Quinby, by request.*—When surplus honey is desirable, the boxes should, be added to all good colonies early in this month. At this season, when the flowers of the white clover appear, there can be no harm if the boxes are on a few days before they are really needed. Do not neglect to stick some nice pieces of clean, white comb in the top, as an encouragement for the bees to begin. As fast as filled, they should be replaced with empty ones. As long as honey is collected plentifully, full boxes taken out may be set by the side of the hive for the bees to leave; but it will not do when it begins to be scarce. They must not stand in the sun. Most of the swarms may also be expected this month. Small apiaries swarm more, in proportion to the number of hives, than large ones. Many persons hesitate about putting on the boxes before swarming, fearing that it will delay, if not altogether prevent it. There are cases when it may have that effect, but when it does, it is not very disastrous. A strong stock that casts no swarm, will store much more honey than a swarming hive. The honey, put in market and sold, will often bring sufficient money to buy two or three stocks. I advise putting on the boxes; if they swarm, it is well—there may be some honey also; if they do not, it is probably better. But do not expect *both*, to any great extent. Stocks that do not swarm, and remain weak till this time, should be examined. They may be so from diseased brood, loss, or barrenness of queen. If queenless, supply a laying queen. If barren, remove, and supply another a few days afterwards. When diseased, drive out to begin anew, or put into a hive partly filled with combs of last year, such a one as we suggested should be saved last fall for the new swarms. But it would be well first, to keep the bees, at least forty-eight hours after driving out, in an empty box or hive, to digest the honey taken with them, before putting them among the pure combs. Bees should on no account be driven out of a hive within less than eight or ten days after the first swarm, or before the young queen hatches. Unless some emergency demands it, twenty days should intervene.

After Swarms are those which issue with young queens. Two or more are required to make a colony as large as a first swarm. When they issue near together, unite them, till a good swarm is hived. When two or more after-swarms are united, they are not always as quiet as others. The queen of each swarm is a stranger to some of the bees, and is imprisoned by their clustering around her. In a short time, the bees not having access to their own queen, become very much dissatisfied, and, after looking throughout the new hive, leave for some other new swarm, or perhaps return to the old stock, attracting all the bees, except the few that are holding the queens. Five or six, or a dozen, may go at once, flying about considerably; and a steady stream, at that rate, will soon take out all the bees, and a careless observer will not know when nor where they are gone, and may not miss them until evening. The hive to which they are attracted may be generally known by the bees stopping about the entrance, and buzzing a moment before they enter. When this state of things occurs, and while there is yet enough for a good swarm left, the hive should be closed with wire cloth, if possible, or something that will admit sufficient air, as a swarm of bees is easily smothered in hot weather. It is a good way to turn the hive on its side, after fastening in the bees; carry to a cool cellar for a day, when they will usually become reconciled. Should they have destroyed their last queen, it will be manifested by uneasy movements, when another may be provided. Such swarms, when they go to work, are liable to lose their queen, on account of her being unable to fly, from injuries received while imprisoned by the bees. If the first combs that they build are for drones, it proves they have no queen. They will accept another at once. When two large first swarms get together, and you have the movable comb hive, it is about as well, and much the least trouble, to hive them together, and when the hive is nearly full, if you want two colonies instead of one, and the extra surplus honey, you may divide. Secure straight combs, by elevating one end of the hive at least 30 degrees. Have it level the other way, and make the other edge of the guide bar, at the top, smooth.

General Premium List.

LAST CALL.

This paper completes half of Volume **24**, and we republish, for the last time, the General Premiums offered for obtaining subscribers this year. A large number, in different parts of the country, have already secured one, often more than one, of the premiums. We invite the immediate filling up of partly completed lists, and the calling for the premiums, that we may as far as possible finish the distribution of the articles by July 1st.

NOTE the good kind and desirableness of the premium articles offered; they will each repay the effort required to get them. A great number of persons can readily make up a new premium club this month. Every now and then some one sends in a large club, stating that it was gathered in a few hours by calling upon acquaintances, showing a copy of the paper, and explaining its character and value.

Table of Premiums and Terms, For Volume 24.

Open to all—No Competition.

Names of Premium Articles.	Price of Premiums.	Names at $1.50 each.	Names at $1.00 each.
1—GOOD BOOKS—* *See terms below*	.....	..	60
2—Case of Drawing Instruments	$8 00	14	60
3—Best Family Clothes-Wringer	$10 00	17	70
4—Doty's Washing Machine	$12 00	19	80
5—Sewing Machine, (Wheeler & Wilson)	$55 00	70	360
6—Four Octave Melodeon (best)	$67 00	80	400
7—Five Octave Melodeon (best)	$112 00	140	600
8—Brown's Baby Tender	$30 00	37	180
9—Brown's Baby Tender	$42 00	52	236
10—Woodruff's Mercurial Barometer..(2)	$10 00	17	70
11—Woodruff's Mercurial Barometer..(1)	$15 00	21	90
12—The Aquarius	$12 00	18	80
13—Ladies' Rosewood Writing Desk	$12 00	18	80
14—Gentleman's do do do	$14 00	21	90
15—Any back Volume Agriculturist,	$1 50	..	20
16—Any Two do do do	$3 00	..	25
17—Any Three do do do	$4 50	..	30
18—Any Four do do do	$6 00	11	40
19—Any Five do do do	$7 50	13	50

Postpaid Unbound

☞ *No charge is made for packing or boxing any of the articles in this Premium List. The Books, also Premiums 2, 15, 16, 17, 18 and 19, are* DELIVERED *to any part of the United States and Territories, free of all charges. The other articles cost the recipient only the freight after leaving the manufactory of each.* ☞ *Every article offered is new and of the very best manufacture.*

☞ *See full description of the Premiums, on pages* **2** *and* **3** *of January Agriculturist.*

The Books offered are worth far more than their mere money value. (See terms below.)

The Case of Drawing Instruments is a neat and valuable affair that will be found very convenient in many ways, especially in cultivating in children a habit of sketching and making plans.

The Clothes-Wringer, Washing-Machine, and **Sewing-Machine** should be in every family where they are not already.

The **Melodeons** offered are the best, and are ornamental as well as desirable in a majority of families.

The **Baby-Tender** is of course wanted wherever there *is* a baby.

A good **Barometer** is as highly useful to every farmer as to Sea Captains.

The **Aquarius** is good in every Garden, and to wash Windows, Carriages, etc., and as an ever ready *hand*-fire engine.

The **Writing Desks** keep the stationery and writing materials always together, and those offered are ornamental also.

The **Complete Volumes** of the *Agriculturist*, bound or unbound, are the best and most useful works on matters pertaining to the Farm, Garden, and Household.

☞ **We wish** every one of our readers could get each of the above articles. Many can get one with only the cost of a little time. **TRY IT** this month. The readers thus secured will in the end thank those who persuade them to subscribe.——It is hardly possible for any one to fail to receive Hints, Suggestions, and practical directions worth more than a York Shilling a month, while the engravings alone are worth this amount.

When any list is completed, notify us which of the articles is desired, and it will be promptly forwarded.

To avoid errors and save immense labor in looking over our books, it is absolutely essential that every name designed for a premium list be so marked WHEN *sent in.*

Old and new subscribers will count in premium lists, but they should be partly new names. for it is to obtain such that the premiums are in part offered. Premium clubs need not all be at one Post office. Of course only one premium will be given for the same subscriber.

* **Premium 1.**—*Good Books.*—Any person sending 25 or more subscribers, may select Books from the list on page 199, to the amount of 10 cents for each subscriber sent at $1; or to the amount of 60 cents for each name at $1 50. The Books will be sent by mail or express, *prepaid by us.*—This is a good opportunity for the farmers of a neighborhood to unite their efforts and get up an Agricultural Library for general use. Many Farmers' Clubs have done so.

Fourth Annual Strawberry Show.

The success of former Exhibitions has induced the Proprietor of the *Agriculturist* to hold another Show of Strawberries the coming season, under the auspices and direction of the Fruit-Growers' Meeting. At a recent meeting, a Committee, consisting of R. G. Pardee, Wm. S. Carpenter, C. Taber, T. Cavanagh, and G. W. Huntsman, was appointed, to make arrangements for the Exhibition. The Committee, in order to accommodate early and late varieties, decided to hold Exhibitions on June 8th, and on June 15th, *the two days forming one Exhibition.* The fruit must all be on the tables by one o'clock on the days above mentioned. The Secretary of the Fruit-Growers' Meeting will be in attendance to take charge of the fruit. At one o'clock the doors will be closed to allow the Judges to make their examination, after which they will be thrown open to the public. The Judges will report after the second Exhibition, and will make the awards to the best fruit shown on both occasions. The following gentlemen have been selected as Judges: S. B. Parsons, Chas. Downing, B. C. Townsend, S. B. Conover, J. W. Degraw.

SCHEDULE OF PRIZES.

1.—Best Strawberry, new or old, size, beauty and excellence considered	$5
2.—Best 12 approved varieties—(1 pint each)	5
3.—Second do do do	3
4.—Largest and best collection of Strawberries	5
5.—Best show of Strawberries in bearing (on plants)	5
6.—Best market variety—(two quarts)	3
7.—Heaviest three berries of one variety	2
8.—Best pint White Strawberries	1
9.—Best pint Alpines	1
10.—Best new seedling, fruited at least two years, but never offered for sale or exhibition, a bearing plant to be shown	5
11.—Best collection of the newer imported varieties	2
12.—Best show of Strawberries grown on a city or village lot (25x100 feet)	2
13.—For the best pint of Agriculturist, Russell's Prolific, Brooklyn Scarlet, Monitor, Col. Ellsworth, Triomphe de Gand, Wilson, Hovey, Buffalo, Burr's New Pine, or Hooker, $1 each	1

C. TABER, *Sec. of Com.*

New-York Live Stock Markets.—BEEF CATTLE have come in pretty uniformly during the past few weeks, the average weekly receipts being 4,316 head—an increase of about 250 over the average for the previous month. The impression that drovers during the past winter have sought to make universal, namely, that there were no cattle in the West for the spring trade, and that prices of beef must be enormously high, has failed to be confirmed. The supply of bullocks is ample, and the quality has run better thus far this spring than during the winter, and present appearances indicate a still heavier decline in prices. Cattle which were reported last month at 22@23c. per ℔, dressed weight, now sell at 18@19c.; good sell at 16@17c.; fair at 15@16c., and common at 13@14c.

Milch Cows have averaged 108 during the last four weeks. The light demand has prevented owners bringing in as freely as last month. Rates range at $40@$75 for poor to good milkers.

Veal Calves.—The receipts are much heavier than reported last month, averaging 2,549 weekly. Good veals sell at 9@11c. per ℔., live weight.

Sheep have come in pretty freely, the supply averaging 8,448 weekly. The numbers of sheared sheep equalled the wooled. Prices of good sheep range at 10½@11½c. per ℔. for unshorn, and 9@10c. per ℔. for shorn.

Live Hogs have arrived in comparatively large supplies, the weekly average being 6,822, compared with 3,764, the average last month. Sales for good light hogs range at 10@10½c. per lb., live weight.

Containing a great variety of Items, including many good Hints and Suggestions which we throw into small type and condensed form, for want of space elsewhere.

Five Dollar Clubs.—This is a convenient season to make up Clubs of four subscribers which are sent for $5.—A present of Strawberry plants is offered elsewhere in this paper. See page 194.

The Last offer of Premiums, for this year, is printed on page 172. It is worth looking into.

Our Strawberry Plants.—All queries in regard to these, are answered in two items elsewhere. Some premium plants are offered. See page 194.

Sheep Show at Canandaigua, N. Y. The "N. Y. State Sheep Breeders' Association" held its first exhibition, on the grounds of the Ontario Agricultural Society, on the 9th, 10th and 11th of May. These grounds contain an amphitheatre capable of seating 12,000 persons, and were well adapted to the purpose for which they were used. The show of sheep was very large and fine, as regards Merinos; mutton sheep, however, were not well represented. There were near 600 sheep of all kinds, the most valuable collection of sheep ever brought together in this country, or, probably, in any other. The attendance was not large, chiefly consisting of farmers, and those much interested in sheep raising. We have no room now for the list of premiums. The shearing in competition for Mr. Moore's prizes excited much interest. There were 26 sheep sheared. The lightest fleece was one of 7 lbs., ¼ oz., taken from a 33-lb. yearling ewe lamb, 11 months, 1 day old. The heaviest was from 221-lb., 2-year old buck, the fleece being 11 months, 26 days old, and weighing 29 lbs., 2½ oz. One 135-lb, 2-year old buck sheared 24 lbs., and one 118¼-lb., 3-year old buck sheared 22 lbs. The heaviest ewe's fleece was 14 lbs., 8 oz., from a 77-lb. 3-year old ewe. The lightest bucks fleece 10 lbs., 13 oz., from a 61-lb., 2-year old buck. The weight of fleeces after cleansing will be given when reported.

Sap Spouts.—C. Sweet, Saratoga Co., N. Y., used, last year, pieces of hoop-iron, bent into a groove form, instead of tubular spiles, and recommends them to the sugar-boilers of the "*Agriculturist* family."

Tobacco.—(Omitted under "Work for the Month.")—Have the ground thoroughly enriched and mellow; set out plants from the 1st to the 20th of the month. Lift the most forward plants, after thoroughly watering the seed-bed. Move to the field in baskets, keeping the earth as much as possible on the roots. Set rather low but do not cover the plant with much, if any more soil, than it had originally, putting the plants 2½ feet apart in rows 3 feet apart. Tobacco plants may be transplanted as soon as they are large enough, say, when the leaves are 3 inches long; and the planting may be continued until the 10th of July. Select if possible a rainy day after the ground is well soaked. Should the sun come out hot, cover the plants with a handful of fresh cut grass, and remove it toward night.

Acknowledgement.—We have received and handed to the U. S. CHRISTIAN COMMISSION from Jas. Rice, Fort Ann, N. Y., $27; Mrs. Elizabeth Feathers, Scio, $10; A Friend, do., 50c.; Sarah Carmalo, Susquehanna Co., Pa., $5.45; Mrs. Miles Joy, Ridgeway, do., $3; H. C. Sigler, Oceola, Iowa, $16.06; A. R. Durlin, Westminster, Md., $3.50; District No. 2, Adams, Wis., $4.55; S. Harrison, Camp Creek, N. Y., $1.75; J. Harrison, do., 50c.——For the U. S. SANITARY COMMISSION: From John Gilman, Rosemount, Minn., $4; A Lady in Yorkville, N. Y., $4; J. L. Russell, Erie, Pa., $9; Thos. A. Haggerty, Warren Co., N. J., $2.80; E. W. Slaters, Orville, Cal., 50c., H. P. Byram, Sag Harbor, $3.12.

A Word to Purchasers of Seeds; Nursery Stock, etc.—A number of complaints of failures of different dealers to respond to orders, have been sent to this office. These have been forwarded to the dealers, and the trouble doubtless rectified as far as it can be. It is not altogether fair, because no return is received from an order, enclosing money, to set the dealer down at once as a humbug and a swindler. It should be considered, that there has been an unprecedented demand this spring for all kinds of horticultural and agricultural stock—so great that there has been unavoidable delay in filling orders. Moreover, in any large establishment, where the business is done by correspondence, many letters will be received, to which there is no possible clue. We get letters without signature, as well as those from which the Post Office or State has been omitted. One of the difficulties arises from the growing custom of giving names to estates, and the use of these in correspondence, instead of the proper P. O. address. One may call his place Clovernook, Hardscrabble, or any other fancy or eccentric name, and have it well known to a whole neighborhood, while people a thousand miles away may be quite ignorant of the location, to which also the P. O. Directory will give no clue. We believe, that the seedsmen, nurserymen, and others who advertise with us, do the right thing, and when we have good evidence that they will not, their advertisements will not be admitted. Before charging them with dishonesty, it is well to recollect, that there is a chance for mistakes on both sides, and it is only fair to give them an opportunity to rectify and explain.

A Splendid Book.—The new edition of "*Downing's Landscape Gardening and Rural Architecture*," which has just been issued, is one of the most attractive books of the season, and will be a highly ornamental as well as useful book on every table where it finds a place. It is on extra paper, is superbly bound, and contains over one hundred steel, lithograph and wood engravings, many of them full page. It is large octavo, contains 576 pages besides the tinted sheets of engravings. Price $6.50. Sent by mail at the same price.

Time to Trim Apple Trees.—S. A. Morrison and others. If the limbs are small, they may be removed at any time, but large wounds heal best in July. The place may be covered with grafting wax melted and put on with a brush, or grafting clay. There is no better wash for the trunks than soft soap, thinned with water to work with a brush. Lime is objectionable.

The First Strawberries.—The earliest fruit shown at this office was a pot of the "Agriculturist" from Messrs. L. Pullen & Son, Hightstown, N. J. The plant was a runner of last fall, potted and grown in the green-house, and though so young a plant it made a goodly show of fruit on May 15th.

Birds and Strawberries.—Several have complained that though their strawberry beds bear good crops, the birds get all the fruit. Where birds are so numerous as to be very troublesome, we know of no other way then to cover the bed with a net. One subscriber asks, if a stuffed cat skin would not scare the birds away. A similar proposition was made at the Farmers' Club a short time ago, and it was suggested that the skin should contain a live cat, which would stuff itself with birds. If any one has a ready means of keeping the birds away, they should communicate it.

Protection against Striped Bugs.—Dr. J. D. Newbro, Ingham Co., Mich., uses tarred roofing paper to make boxes or frames to keep the striped bug from cucumber, squash, and similar vines. The frames are made slightly tapering, so as to pack together when not in use. They are made 10 or 12 inches in diameter, and 12 or 15 inches high. They are prevented from blowing over by means of three stakes driven inside, and the paper tacked to the stakes. The doctor thinks that the odor of the tar, with which the paper is covered, helps repel the insects.

The Striped Bug again.—A. Quinby, Westchester Co., N. Y., has had no trouble with them for the last ten years. He dusts the plants with dry earth, while the dew is on them, and if the plants are dry, he wets them and applies the dust. He says that the bugs will not feed on leaves, that are covered with grit. E. Humphrey states, that he has grown cucumbers for several years upon sod ground manured with hen manure, and has never seen a bug on the vines.

Plants Named.—As the season of flowers is at hand, we get specimens of wild flowers for names. If the specimens are sent in good condition, we are very willing to name them, but we have no time to give to making out badly dried specimens, or those which are put in a letter in a green state, and "all of a heap." We should be glad if those who take interest enough in flowers to wish to know what they are, could be induced to study botany and look them out themselves. At all events, we ask our friends to either press the specimens before sending, which may be done in some books of little value, or between folds of soft paper with a weight upon it, or send them fresh in some kind of box that will not get crushed in the mail. Mr. R. Allen, York Co., Me.: *Coptis trifolia*, very nicely dried specimens. This is called Gold-Thread, on account of the bright yellow color of its roots, or rather underground stems. It is a very pure bitter and is used in medicine and domestic practice... J. H. Parsons. Some kind of *Smilax*, which cannot be told without the leaves...E. G. Topping, Whiteside Co., Ill. Probably White Cedar, but specimens too small...J. C. Martindale, Phila. Co., Pa. The grass is *Crypsis schœnoides*, the Rush-like Crypsis, a European species which has become naturalized in some parts of Penn. The other is a species of *Muscari*, or Grape-Hyacinth, but too old to say which one...R. R. Alleghany. The Dutchman's breeches, *Dicentra cucullaria*...Elias Jones. *Stellaria media*, the common Chickweed. It will flower whenever not actually frozen. It is most troublesome in wet soils, and drainage is the best remedy...Emily C. Day. *Hepatica triloba*, or Liver-leaf. The young leaf not recognized....J. M. Shaw. Bastard Pennyroyal, sometimes called Blue-curls, *Trichostema dichotomum*... J. E. Fuller. Dittany, *Cunila Mariana*. It may be liked by some as a substitute for tea, but it smells too much like medicine to suit us.

The Borer.—F. D. Loy, Lyon Co., Kansas. The only sure remedy for the apple tree borer, is purely mechanical. Probe the holes with a wire or whalebone, and crush the maggot; then wrap the lower part of the trunk for a foot or more with tarred paper, first removing the earth, so that the lower edge of the paper will be near the roots, and draw the earth back again.

Another Borer Remedy.—A subscriber finds, that an occasional application of urine around the trunks of peach trees, is offensive to the borer, and conducive to the health of the tree.

Again and Again we are obliged in self-defence to repeat that we know nothing about and wish to know nothing about any quack doctors in New York or any other city. We have repeated so often the statement that no one who advertises his cures is, in our opinion, worthy of confidence, that it ought by this time to be generally understood by our readers. Notwithstanding the frequent expression of this opinion we are still *very often* appealed to by parties who wish to know if such or such an one is not an exception to this rule. These questions are generally asked about persons of whom we have never before heard, and the supposition is that they advertise only in the country papers. Sometimes these inquirers say, that they saw the advertisement of the so-called doctor in some particular paper, and think that it would not be admitted there if the advertiser was a quack. The fact is that the general, as well as the religious and agricultural papers (except our own), exercise but very little censorship over what appears in their advertising columns, and the most outrageous and obscene things appear under the head of "medical advertisements" in the best of them. As a general rule, the longer a man's advertisement, the worse quack he is. Physicians of proper standing if they advertise at all, at most state their address and the fact that they give their attention to particular diseases. Beware of the man who does more than this. We hope that our friends will not put themselves to the trouble of making inquires about advertising "doctors," for the only answer we can make is: "We know nothing of the persons."

Killing Elecampane.—"P. F." says, that the roots will be destroyed by fall-plowing the land.

Strawberry Preserves—Note.—Since the page (191) containing "Mrs. F's way of preserving strawberries," went to press, Mr. F. informs us that the bottles containing the selected fruit, are to be kept in hot water until the fruit is thoroughly heated through, so as to expel the air completely, before the flavoring syrup from the other berries is added.

New Kerosene Burner.—The new kerosene burner without chimney, with which a challenge is made in our advertising columns, combines some advantages we have never before seen so fully attained. The light is clear, free from smoke, and although not equal to a chimney burner, will answer well for ordinary use. A great point gained is, it is not easily blown out; it may be carried up and down stairs rapidly without being extinguished.

Ivin's Hair Crimpers—Several inquirers. Ladies who have used these, report that they like them much. They are in the form of a hair pin, are easily applied, require no heat, and therefore do not injure the hair as some other appliances used to crimp the hair, and give it the wavy appearance admired by some.

A Waspish Item.—A correspondent asks, why wasps cannot sting a person while he contiuues to hold his breath. Let the inquirer when he finds a Yellow-jacket's nest, hold his breath good and tight, and break up the nest, and if he does not get stung, we shall conclude it was—because he held his breath.

Gestation of Cows.—Two neighbors have gone to law about the damage arising from a bull running at large, contrary to the laws of the State of Iowa. The animal ran with four cows of the plaintiff. One of them calved within 40 weeks, the others were expected to, at furthest, within 45 weeks. To decide the length of time a cow may go with calf, is of interest to all parties concerned. The period of gestation varies, more or less, in all animals. The average period in the cow is considered 40 weeks. The late Earl Spencer kept a record of 764 cows; they averaged between 284 and 285 days. Blane says he kept an account of 160 cases, which varied from 241 to 308 days. Tessier says he found it to vary from 240 to 331 days, in 570 cases. Bergen considers the average period 280 days. Youatt makes the average 270; (this is probably an error). Manvie records a case of a cow going 16 months; the calf died. There is a case recorded in 1831, in the Veterinary School of Utrecht, of a cow carrying her calf 15 months, less 2 days; the calf lived. The shortest period of gestation that we find recorded, where the calf lived, was 220 days. The authorities cited are reliable.

Scratches and Grease are scarcely known in well ventilated stables, where cleanliness and care are exercised in managing horses' feet. J. B. Cheeseman sends his method of treatment, which is as follows: "Cleanse the heels with soap suds, and, when dry, apply hot tallow with a swab. One application is sufficient. Fish brine, or a coating of common white lead paint, are equally efficacious." We approve of your application of warm water and soap, and rubbing the parts dry, after which the white oxide of zinc ointment, or a little glycerine, will be found excellent applications for these diseases. They can be obtained of any good apothecary, are easily applied, and free from danger; which is not the case with the remedies you mention.

Lice on Hogs.—"E. J. D," Mercer Co., O.—The Swine Louse (*Hamatopinus Suis*) is readily destroyed by a strong decoction of quassia wood; tobacco water is also used, but requires especial caution in its application. A little benzine, dissolved in alcohol, applied with a shaving brush, or piece of sponge, is said to be a certain cure, but, like tobacco water, requires care in its use. The pen should be kept clean, occasionally whitewashed, and the bedding changed frequently.

Wintering Hogs on Turnips.—S. M. Thurston, Dacota Co., Wis., writes: "I have wintered my hogs on raw ruta-bagas for two winters, and think them better than potatoes." Sow ruta-bagas on good deep soil in June, the earlier the better.

The Sheep Shearings.—There are a number of shearing festivals appointed in various parts of the country. They are of local interest, and we hope will be well managed and well attended. In rapid and close shearing, humane care for the comfort of the sheep, rather, we might say, care not to torture the poor animals, is not given sufficient weight in deciding the merit of the shearers. Should occurrences of particular interest transpire, we hope to receive reports.

Meat Bones—Don't Burn Them.—Make soup from them, then sledge them up fine, and feed them to the hens, or hogs, saving the manure of these animals. Or throw them broken fine into a heap with horse manure, perhaps making a regular compost, afterwards of the manure. Thus you save, and utilize on the farm or garden all the nitrogen (as ammonia). When they are burnt, even if the ashes be saved, all this is lost.

Solution of Bones by Acid.—"Verdant Farmer" asks how to dissolve in oil of vitriol. It is rather a difficult thing to dissolve bones well. It is best not to do it in a hurry. Sledge up (down?) the bones as small as you can conveniently, put them into a half-hogshead tub (made of an oil cask), filling it half full; wet them with water, so as to moisten the whole mass, and leave it a day or two, stirring to make all moist. Then take of oil of vitriol, about half the weight of the bones, dilute it by pouring it carefully into an equal quantity of water, or more—(it will become very hot, and may spatter), and pour this upon the bones. Stir thoroughly and often—daily, for a week, mashing and breaking the lumps. Add more water, if necessary, to be able to stir the mass, and finally dry off by addition of bone dust, saw dust, coal ashes, dry leached ashes, plaster, or muck. If big pieces of undecomposed bone be found, rake them out. This drying operation is best done on an earth floor.

Why do Cattle Gnaw Old Bones?—"H. H.," Westchester Co., N. Y., asks: "What is the cause of cattle wanting to be chewing pieces of old bones, as is the case with mine? I give them salt, but they refuse it, and if they can find an old bone they would chew it all day if I would let them. Can you tell the cause?" You have sold corn, hay, milk, veal, young cattle, cows, etc., off your place, until the bone-material phosphate of lime is so nearly exhausted that the animals have got the "bone disease." Feed them a little bone meal daily, for some time, and sow bone dust on your pastures, and mowing land. It will greatly increase your crops besides. This advice is good for thousands besides you.

Barley Sprouts as Manure.—"J. S.," Tamaqua Co., Pa., has used the barley sprouts of the breweries, with very good results on potatoes and other vegetables, (two handfuls to the hill of potatoes), and asks, if it can be regarded as a substitute for stable manure? No, not by itself. Composted with swamp muck, and adding lime, ashes, plaster etc., to the soil, in moderate quantities, it may substitute stable manure.

Anthracite Coal Ashes.—"New Subscriber" writes: "An English writer states that the ashes of English (bituminous) coal are good to mix with animal manures, to absorb or retain, till needed by vegetation—those good qualities of the manure which might be lost; or as I understand it, that they might have the same effect, in some degree, as plaster," and asks: "Are the ashes of anthracite coal of any value for the same purpose?"—Yes—but not of uniform value. Screened free from clinkers, they make a good addition to dung composts, or may be used alone on grass in autumn.

Wintering Bees, Buried and Exposed.—Bidwell Bros., Ramsey Co., Min., send us the following communication, which has special interest for bee-keepers. We print it, hoping to receive from our correspondents a statement of their method of burying their bees. They write:—"On the 26th of October last we selected ten stocks of bees to winter *out of doors*, and weighed each. On March 25th (nearly five months) we weighed them again, and found the following result:

Oct. 26.	*March* 25.	*Loss.*	*Oct.* 26.	*March* 25.	*Loss.*
75 lbs.	55¾ lbs.	19¾ lbs.	74 lbs.	41½ lbs.	32½ lbs.
81¼ "	53½ "	27¾ "	77¼ "	49¾ "	28 "
73¾ "	47 "	26¾ "	79¼ "	53¾ "	26 "
73½ "	48¼ "	25¼ "	77½ "	51 "	26½ "
73¾ "	47¾ "	26 "	70 "	46½ "	23½ "

Whole number of pounds of honey consumed,.....265
Average consumption in each hive.....26½

The thermometer ranged from 68 above to 33 below zero. We buried in the ground eighteen miscellaneous stocks, October 26th, and re-weighed them the 27th of March, with the following result. There were eight hives in the bottom tier, six in the middle, and four in the top tier.

Oct. 26.	*March* 27.	*Loss.*	
92¼ lbs.	78¾ lbs.	13½ lbs.	top tier.
92⅜ "	79¾ "	13¼ "	top tier.
92 "	79¾ "	12¼ "	top tier.
91¼ "	79¾ "	11½ "	top tier.
90¼ "	80¾ "	9½ "	middle tier.
87¾ "	78¾ "	8¾ "	middle tier.
72½ "	65½ "	7 "	middle tier.
87 "	80 "	7 "	middle tier.
82 "	75¾ "	6¼ "	middle tier.
87 "	78½ "	8¾ "	middle tier.
93 "	85¾ "	7¼ "	bottom tier.
90 "	83 "	7 "	bottom tier.
90¾ "	83¼ "	7 "	bottom tier.
78 "	72¾ "	5¼ "	bottom tier.
69½ "	65½ "	4 "	bottom tier.
63½ "	60½ "	3 "	bottom tier.
67 "	64¾ "	2¼ "	bottom tier.
56¼ "	54¼ "	2 "	bottom tier.

Total amount of honey consumed,.....136¼ lbs.
Average,.....7 5-9 lbs.

"We might remark that the greatest stocks out of doors, and the strongest in the ground, consumed proportionately the most honey. Those at the bottom of the pit less than those at the top. The dirt was four feet through at the bottom, and only one at the top. The stocks that wintered in the open air lost about half of their numbers, while those buried increased some, and came out bright. We shall bury all our bees next winter."

To Stop Chipmucks Pulling Corn.—S. M. T. says his neighbors "soak their corn in a decoction of tobacco, and it has invariably put a stop to the depredations of the Chipmucks." Still, he asks for a better remedy. Why is not this good enough?

Mixing of Plants.—G. Paul, St. Louis, Co., Mo., and others. According to the laws of plant life, as we now understand them, admixture of different kinds of nearly related plants, can only take place through the seed. That the fruit which encloses the seed may be changed by cross impregnation is quite probable, but it is not proven. Carrots and beets may be raised for seed in close proximity to ruta-bagas, or any other turnips, without the slightest chance of any change from this cause, although the turnips or the other vegetables may deteriorate, for the reason that the plants were not well grown. As to the question of potatoes mixing in the hill, we have many assertions that they will do so, but no proof, and we should require evidence, such as would convict a man of murder, before we could be convinced of the truth of the statement. That potatoes may vary, and that a colored variety may produce tubers partly white, or a white variety yield those having colored markings, we can readily admit, but instead of attributing it to any influence of mingling sorts, we should rather ascribe it to the breaking out of some latent peculiarity. We have seen one branch of a grape vine produce leaves mottled, and margined with white, and so with other plants, and see no reason why, under favoring circumstances, potatoes, which are merely branches peculiarly developed, should not sport as well.

Self-Regulating Fountain.—S. D. Newbro, of Ingham County, Michigan, writes that he employs for securing a small but regular discharge of cider into the sawdust leach box, in the process of making vinegar in the quick way, an apparatus similar to the one here figured, in which *R* is a reservoir, *T* a trough connected with *R* by a pipe, the pipe entering first a box below, from which the flow into the trough is regulated by a valve attached to the float *F*. When the float rises to a certain hight, the valve closes, but re-opens again when the cider is drawn down. The spiggot, *S*, is inserted at any convenient place in the trough. Mr. N. suggests the value of this contrivance for maintaining a regular flow of sap into the evaporating pans in maple sugar making, and also its application as a fountain of fresh water for poultry,—for which purposes it is available, if the valve close tightly.

West Jersey Fruit Growers' Association.—The second annual Report of this Society is at hand. It is a modest little pamphlet, but much more valuable than some of greater pretension, as it records the experience of its members with certain varieties of fruits, in a concise and definite manner. Any one living in Burlington Co., and wishing to know what fruits succeed there, can find in this little report just the information he needs. We have looked over its contents with interest, and commend the example of the West Jersey Association to other Horticultural Societies.

Catalogues, etc., Received.—John Vanderbilt, 23 Fulton street, has issued a new illustrated catalogue, full of engravings of everything in the way of agricultural and horticultural implements, from a threshing machine to a garden rake, with descriptions in both English and Spanish.....The Report of the State Board of Agriculture of California is at hand. Though it treats mainly of local matters, it abundantly shows that the people of that State fully appreciate their wonderful natural facilities for making California a leading agricultural State, and mean to improve them.

The Vegetables of America.—A new edition of this work, by Fearing Burr, Jr., has been published by J. E. Tilton & Co., of Boston, and is a most elegant specimen of book-making. The letter-press, engravings, and paper are of a character not often seen in books of this class. With regard to the matter, it is a most useful compendium of the cultivated vegetables, giving descriptions of varieties, with interesting notes concerning their origin and history. Although it was not within the intention of the author to write a hand-book of practical gardening, he has given brief directions for the cultivation of the different varieties of vegetables. Both author and publishers can congratulate themselves upon having produced a work that is both useful and elegant.

Trimming Fruit Trees. If "Young Farmer" had read the calendar carefully, he would have learned that fruit trees may be "trimmed" at any convenient season with the knife, but that limbs large enough to require the saw are best removed in summer or later.

Spring Budding the Peach.—Several correspondents state that they have been more successful in budding the peach in spring than at any other time. The twigs containing buds should be cut before vegetation starts, and preserved in the same manner as cions.

Flowers for Shady Situations.—The Pansy and the Forget-Me-Not, the Primroses and Nemophilas, all do well. For these last, we wish to speak a special kind word. The *N. maculata* is one of the largest, white, and blotched with violet. *N. insignis*, is sky blue, small, but a great bloomer. *N. discoidalis*, is a rich maroon, bordered with white. They are all Californian annuals of the easiest culture, and if they have a partial shade, will bloom freely.

Supply of Farm Labor.—We again take occasion to direct attention to the advertisement of the American Emigrant Company. It contains a well timed proposition for supplying farmers in all sections of the country with labor, in a feasible and practical manner. The object of the company is to disperse all through the interior of the country the laboring people who are constantly arriving at New York, and in order to accomplish this, it sends under the care of a conductor, companies of newly arrived immigrants, varying from 20 to 50 in number, to designated localities. These companies are composed of men and women of such description and qualification as are required, and previously ordered by persons living in the neighborhoods to which they are sent. The immigrants so sent out are delivered at any specified point to a person appointed to receive them on behalf of those who have ordered them, and will have contracts made with them either to work for a specified term (if that be desirable), or at all events for a sufficient length of time to repay all the cost attending their transportation. Thus every section of the country can be supplied promptly and certainly with labor just as cheap as it is to be had at the sea-coast. The company has established a widely ramified system of agencies in Europe and is exporting large numbers of German, Swiss, Swedish, and Danish laborers as well as British, and is thus prepared to furnish help of almost any nationality that may be desired. It is also engaged now in the work of establishing agencies through the various States of the West to facilitate the dissemination of workmen in the interior. It is of the greatest practical importance that some such plan should succeed, and as we know the company is one of character and capacity, we have satisfaction in commending its operations to the farmers of our great land.

Fire-Proof Shingles.—A writer in the Boston Cultivator says he had always noticed that the staves of an old soap barrel, or pork tub, made very poor kindling-wood, and so he argued that potash and salt would tend to keep his roof from kindling. Being a blacksmith, this was a matter of some importance. So, in preparing his shingles, he took half a bushel of lime, half a bushel of refuse salt, and five pounds of potash, and water enough to slake the lime and dissolve the alkali and salt. He mixed these up in an old trough, or box. Then he set a bundle of shingles into the mixture, nearly up to the bands, leaving them soaking for full two hours. Then he turned over the bunch, and put in the other side, for the same length of time. As exposure to rain and sunshine will, in time, take out the strength of this mixture, it should be applied, fresh, once in 3 or 4 years.

The Cornell University.—Hon. Ezra Cornell, of Ithica, has offered to the State of New York, to endow an institution of learning, to be called by his name, with $500,000, and 200 acres of land on certain conditions, the principal of which is, that the grant of land made by the United States, for the benefit of agricultural and technical education, be given to this University. This very munificient proposition has been accepted by the Legislature, subject to the condition that the People's College to which the U. S. fund was originally, but conditionally given, complied with conditions then imposed within thirty days, a result which has not been attained. Mr. Cornell is widely known for his business ability, for his liberality, and as an ardent friend of agriculture and education. The trustees named in the bill, are men who will carry out his views, and accomplish the objects of the endowment, which are as stated in the bill, "the cultivation of the arts and sciences and of literature, and the instruction in agriculture, the mechanic arts and military tactics, and in all knowledge."

Wild Buckwheat.—In January the question was asked, if the wild buckwheat was poisonous. N. Engle, of Wabasha Co., Minn., says, it is not, but if ground, "is worth about as much as the same weight of oats as food for cattle. Mine fatten on it." On the other hand, J. R. Comstock, Clayton Co., Iowa, says, that he once fed four horses on oats, which were mixed with wild buckwheat in the proportion of about one-third of the whole. One horse was killed, another made sick, and the other two did not eat up their feed. These two accounts differ so widely, that we must conclude, that they either do not refer to the same thing, or that, while cattle may eat it, horses are injured by it.

Galvanized Iron.—L. A. Leland, St. Joseph Co., Mich. The term "galvanized" is a technical term, applied to iron that has been coated by a film of zinc. Treated in this way, wire, and other articles made of iron, are in no respect altered, save that the thin covering of zinc effectually prevents them from rusting. The suggestion of using galvanized iron wire for a clothes line, was first made in the *Agriculturist* long ago, and has been copied by various papers without credit.

Erecting Gravel Wall Houses.

The delay in fulfilling a promise which we made some months since has caused no little inquiry among our readers in regard to the details of building gravel-wall houses. As we then said, we have no personal experience in building concrete walls, and so we have applied to an old friend and staunch farmer who has. He sends us the following minute instructions, Which come in good time for those whose plans are formed and who can give their own personal supervision to the work during the dry weather between June and October. Mr. Edwin Hoyt, of Fairfield Co., Conn., writes:

THE PLAN.—The first thing is the plan of the house. This should have been well studied, and every thing definitely decided upon. Plain working drawings must be made of cellar, ground and chamber floors, with elevations of the sides. Every door, chimney, and window should be positively located before any of the wall is laid, for it is essential in making the "curbing" that the bolts, cleats, etc., are so arranged as not to interfere with the window and door frames. It will be found, moreover, a great convenience if the windows in one story correspond in size and position exactly with those in the other, especially where stone window caps are used, so that the curbing, which must be cut to let the caps project, will not need to be altered.

It will be observed that the system of building which Mr. Hoyt uses, and considers superior to every other, is that of laying the concrete between curbing boards in place, that is, where it is to remain—the curbing being lifted, as soon as one course hardens, and set for an other.

THE CURBING.—This consists of an inside and an outside board for each side of the house—that is four pairs, for common square houses. Each board is 20 inches wide—and the full length of the wall, of 1½ inch stuff, and is composed of strips, 5 inches wide, fastened together so as to break joints.

Care should be taken that joints do not break, in contiguous strips, at or near the same place, and that no more than two strips should break joints at the same section of the curb-boards. Cleats should be put wherever joints break, and nailed with wrought nails, well clinched, putting two nails in each strip.

It will be no disadvantage to make the boards very stiff, and it may even be necessary to put cleats thicker than specified. They should be from five to six feet apart, just as it happens. Care should be taken not to have a cleat come where a window, or chimney comes. The ends of each curb should be perfectly square, and the outer curbs exactly 1½ inches longer than the length of the wall. The cleat, at one end of each, should extend one inch beyond the end, and at the other, it should be flush with the end. These end cleats are 10 inches wide, to give requisite stiffness. When the curbing is put up all around, the projecting cleats will form "gains," into which the plain ends of the other boards will fit, forming tight square corners. The inside curbing should be arranged as follows:—Two of the curb-boards should be 1½ inches shorter than the inner face of the wall, and the other two should be 3 inches shorter (that is if the curbs are of 1½ inch stuff), and the end cleats should be about 6 inches from the ends. The cleats next to the end ones, on the outside boards, must come opposite these, and all the other cleats opposite. The outside and inside curbs must correspond in pairs—and be so marked. If the inside curbings be made accurately of the length prescribed, when put together, two opposite corners will be short, just the thickness of the curb-boards. This square space must be filled by a stick, 1½ inches square and two feet long, which, when the curbing comes to be moved, may be drawn or driven out, to enable the boards to be slipped.

Having the curbing cleated and nailed together, bore holes ⅜ inch in diameter through the cleats, exactly 5 inches from the bottom. The holes are for the rods which connect the inside and outside curbing, and are of ½-inch, or ⅜-inch iron. They should each have an eye of 1½ inches inside diameter, turned on one end, and a thread for a nut cut on the other. The nut should have a "tail" to it, to turn by hand. Bore a ⅜-hole into the upper end of each cleat, to receive a spike-nail. A 2×2 stud is cut in pieces, 8 inches longer than the width of the wall. Through these pieces spikes should be driven, so that when placed on the tops of the curbs, and nails inserted in the holes before mentioned, the curbs will be *exactly* the right distance apart.

If the rods, and cleats at the top, are four feet, or more apart, there should be clamps between, to keep the boards in place. For this purpose, take 3×3 inch studs, and saw into pieces of suitable length, and into each end frame side pieces, just as for a "bolster" to a lumber wagon. They must be one inch further apart than the width of the wall and curbing. Oak boards, one inch in thickness, will be sufficient, if they have a good shoulder on the outside. The side pieces should be long enough to pass two of the 5 five-inch strips, and well on to the third. The clamps will, when put on, have a play of one inch. This is to receive an inch piece, say 15 inches long and 5 wide, made necessary by the fact that when the curbing is filled, the pressure is so great, that the clamp cannot be lifted up, when you wish to remove the boards; but by taking a hammer and driving out the inch piece, it at once relieves the clamp. It is best to have enough of these rods, cleats, etc., that the wall may be kept in its place. The corners of the outside boards should be held by two iron clasps, one at the top and one at the bottom, say two to three inches from either edge. They should be made of ox-shoe iron, (and heavier would be better,) and should be made *exactly* at right angles. One end should be fastened to the board with a staple, the other end should be made with a hole, so as to receive an iron pin. If these iron clasps are made an exact right angle, and the curbing boards made square at the ends, when the corners are brought together, they will fit snug, and cannot get away. If the corners are snug, rest assured, the curbing boards are level or plumb. If the joint at the corner is not a fit, then some thing is out of true somewhere.

THE CELLAR walls should be built of stone. Do not build any "gravel wall" below the surface of the ground. It is better to have a good foundation and water table. There are many cheap houses of this material, with brick foundations; but it is *best* to build well. Do not spoil the house to save a few dollars.

It is not necessary to use cement in building the walls. Use good lime, and not too much. (I used 16 of sand to 1 of lime.) With good gravel and care, the material will give satisfaction.

Having the curbing ready, set the floor joists and fill up between them with concrete. The outside boards may be used for this purpose, but will require some care to keep them in place, and this must be done by outside braces. The inside must be built up as one would lay a wall. Having leveled up to top of the floor timber, set

the window and door frames. These should be nailed to studs, which should be nailed to the floor timbers, and placed plumb. When plumb, the top should be stayed to the floor joist, by a good stiff stay at each side of the frame. Where the space, from window to window, or door, is too long, place in a stud with a straight edge, exactly flush with the inside of the wall. These sticks are of great use to keep the wall plumb and to nail the mop-board, pictures, etc., to. It will not do any injury to put in straight edges, as many as you choose, on the inside of the wall, but none outside. The window and door frames should be set in 1½ inches from the front face of the wall, and a beveled strip should be sawed out and nailed on, so as to come out flush with the outside, and give a beveled corner, instead of a square one to the concrete. This, also, is a guide for the outside curbing, which can be tacked to the frame.

Having the windows and doors set, make moulds for the chimney flues; they may be 14 inches wide and 4 inches thick. Take two-inch strips for the sides, and nail on inch boards. Let the strips be 2½ feet long, and bore a hole at the top of each, through which an old broom handle may be run, to draw up the mould by. The moulds should be about 22 or 23 inches long. They are drawn up each time before the curbing is loosened for the next course.

The first course will be 20 inches high, or the whole width of the curbing boards. The mortar should be made thin, so as to pour from a pail, and all the stones possible worked in. It is better to lay the stones in, in some order. After the first course, the boards should be raised but 15 inches, letting the rods rest on the top of the last course. The inside board can be tacked to the window studs, pieces in the wall, etc., as above stated. When the boards are raised, turn up the nuts, having a stick in one hand just the length your wall is thick, place this in between the boards and turn up the nuts. Five inches of the board must remain lapping on the last course. A good plumb and level should always be at hand. Three or four courses per week will be all that it is advisable to lay. Never loosen up the curbing when there is appearance of rain. If you wish to use stone window sills, leave a place, and put them in afterward. The caps should be put in when you come to them. The curbing board can be cut out, so as to let them project out, far enough to receive the stucco. After you have passed the window, nail the pieces in again.

Make the staging strong, and fill the first story from the outside. It will be necessary to have a scaffold on the outside to raise and adjust the boards. The scaffold poles will require to be well stayed. Drive stakes into the ground to fasten the stays to. This scaffold can be used by the carpenters, to cornice, &c. Also for the masons, to put on the stucco.

THE STUCCO should be put on by some person who understands the business. This is one of the most important things, for the good looks of the house. It is not necessary to 'fur' out for the wall. Plaster directly upon the 'gravel wall.' Pains should be taken to "anchor" the timbers the same as in brick houses. Do not hurry too fast, and work only in fair weather. A wall, twenty-five or six feet high, can be built in two months. Use care in moving the curbing boards, and be *exact* with each course. Those studs, or straight edges, put into the inside of the wall, should be "anchored." This can be done by nailing on pieces of boards, to run back into the wall, 8 or 10 inches; make the ending in the wall the largest. A person with ingenuity will take my ideas, and go on with little trouble.

Tim Bunker on the Pickle Fever in Hookertown.

MR. EDITOR:—"I knew it would be so," said Mrs. Bunker, raising the gold-bowed spectacles from her eyes, as I came home from holding court one night, "I knew it would be so. That paper is just like a whispering gallery, Timothy. Every thing you do and say in Hookertown is echoed from one end of the land to the other. Since you have been gone, three letters have come about pickles, and Seth Twiggs and Jake Frink have been in, and I guess Mr. Spooner has a touch of the fever, for he preached Sunday about the 'Lodge in a Garden of Cucumbers.'"

I had not more than got done supper when Seth Twiggs made his appearance in a cloud of very blue smoke, and he had n't got the first question fairly out before Jake Frink and Kier from the White Oaks, knocked at the door, and Dea. Smith and Jeremiah Sparrowgrass followed. Think's I to myself, I guess I shall have a meetin' to-night, whether the minister does or not. It was lecture night, and I suppose the deacon stopt in on his way. I am afraid he did n't hear the bell, for he did n't start when it had done tolling.

"Now," said Seth Twiggs, bringing his pipe down on his knee with an emphasis that would have smashed it if it had been worth anything, "Du ye really think three hundred dollars can be made on an acre of good Hookertown meadow, in pickles?"

"Is it clean cash?" asked Jake Frink with a dubious look. "Them fellers as deals in pickles is apt to be kind of sharp."

"Du ye think there is any chance for us up in White Oaks, 'Squire, to go into pickle business?" inquired Kier Frink, the hopeful son of Jake.

"Fellow-citizens," says I, "don't all talk at once, and I'll try and answer your questions. "I've got three letters come in to-day's mail, on the pickle business, and I haven't had time to digest them yet. The policy of going into the cucumber trade depends altogether upon the facility of a market. You might grow cucumbers well enough in Iowa, but if you had to send them to New-York to market, it would n't pay very well even at two dollars a hundred. A man must be within a short distance of a pickle factory if he purposes to deliver his crop from his own market wagon, or within easy reach of the factory by rail or steamer. Steamboat carriage is better and cheaper than railroad. Twenty-five cents freight on a barrel, probably, would not interfere with reasonable profits. The pay of the pickle men is as good as that of any other class of manufacturers. There are few in the business; their profits are supposed to be large. It is ready pay and clean cash, if you make that bargain with them. Pay as you go is the rule in pretty much all kinds of business now. That is one of the advantages of the war. A good many other folks besides the rebels have found out just where they stand."

"Where can we get seed?" asked Dea. Smith.

"That is one of the most important things in the business. I do not know of any one who makes a business of growing the seed to sell, but almost every farmer who has a pickle patch grows his own seed, and thinks it a little better than any thing else. If a man is going into the pickle business, it will pay him to visit Westchester County. He can hardly go amiss of farmers who have pickle patches in Yonkers, East Chester, West Chester, West Farms, and other towns. He can inquire for Noadiah Tubbs, who will tell him all about it. If he does not want to be at that trouble, he should send to the nearest good seed store. I have raised fine cucumbers from just such seed."

"Do you salt the cucumbers before you sell them?" inquired Sparrowgrass, with a refreshing greenness.

"No, Sir. That is the manufacturer's business. He wants fresh picked cucumbers to make pickles out of. Of course you do not want tight oak barrels, like whiskey casks, to pack your cucumbers in. The farmer generally buys up a lot of cheap flour barrels, when he is in town, at the baker's or grocer's, or at the hotel, and these, with a little coopering, will answer his purpose for a single season. They are sent to the purchaser or consignee, by rail or boat, full of cucumbers, and sent back empty by the same conveyance. The owner's name or initials should be put upon them."

"What sort of a bargain does the farmer make with the pickle man?" asked Seth Twiggs.

"That is just as he can light upon chances. If he is near the factory, he agrees to deliver at so much per thousand. If he sends by other conveyance, he agrees to deliver them at the nearest depot, or landing, or to pay the freight clear through, as the case may be. The terms will vary according to circumstances. Some prefer to send their crop to a commission merchant and run the risk of the markets."

"How about sorting?" asked Kier Frink.

"They commonly have a shed or hovel for this purpose where all the cucumbers are brought as fast as picked, and are assorted into three sizes, the largest for eating, and the two smaller for pickles. The 'nubbins' and 'yellow boys' will have to be thrown away or the pickle man will do it for you. If picked regularly, however, there will not be many unmerchantable."

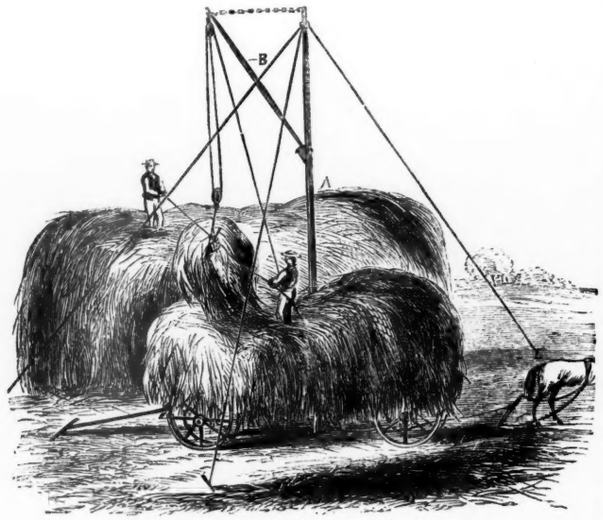
One of my correspondents wants to know if night soil is good manure for this crop. He says: "I have got 261 one-horse loads of night soil, about three-fourths of it is composted with muck, the other fourth is almost the pure article. Shall I plow in the former and put half a shovel full of the latter into the hill. My land is a clay loam—is that right?"

The trouble with the pure article is that it is quite too strong, and would be likely to rot the seed unless great pains were taken to mix it with the soil at the time of planting. I should prefer the compost in the hill, and either compost the rest or spread it, and plow it in. Such a quantity of night soil ought to put four acres in good condition. As to the preparation of land, look at Diah Tubbs' views in back numbers of the *Agriculturist*. A sandy loam is considered the best for all kinds of vines, but heavy crops are grown on clay lands. With night soil good pickles can be raised on any well drained land.

He also wants to know who are reliable men engaged in this business. In Wilson's Business Directory he will find a list of pickle dealers, the most of whom have factories either in the city or out of town. Provost & Wells have a factory at West Mt. Vernon, and Broadmeadow & Stout at Dobbs' Ferry. The business is in very few hands, and judging from the large advance made upon the raw article, must yield a fair profit. Probably there is room for the enlargement of the business and for new men to make a living. Every man must judge for himself whom to deal with, and whether the pickle business will pay.

Hookertown, Conn., May 10th, 1865.

Yours to command,
TIMOTHY BUNKER ESQ.

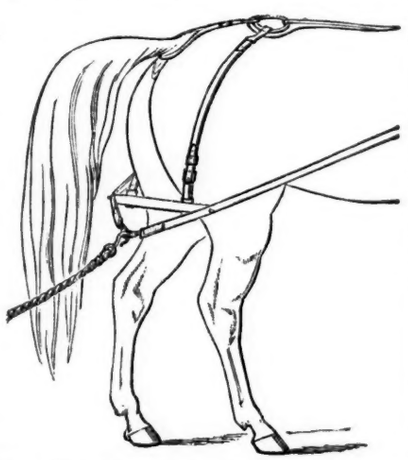


Horse-Fork Hay-Stacker.

H. M. Deming, Kansas, sends to the *Agriculturist* a sketch and description of a Hay-Stacker, which, he writes, he has used with much satisfaction. He describes it thus: "Set a stiff pole, (*A*,) 25 or 30 feet long, firmly in the ground, and about 8 feet from the top, bolt on a block, which has a socket made with a two-inch auger. Fit to the socket one end of another light pole, (*B*,) about 11 feet long, and shave the upper end so that it will go into a link of a chain extending from the top of the main pole to the small one. Pins may be inserted in the main pole, on which a man can ascend to the top to adjust the length of the chain. The tops of the poles should be about 5 to 8 feet apart. The upper end of the small pole should receive the end link of the chain, and a pulley can be hung on the hook. The main pole should bear a very little towards the stack, so that the forkful of hay will swing clear over the stack as it rises. Guy ropes extend from the top of the pole to stakes driven firmly in the ground to keep it upright. These should be attached so as not to interfere with the swinging of the crane." It will be perceived that the draw-rope, to which the horse is attached, passes from the upper pulley beneath the lower one, thence over the upper one, then through a block fastened at the base of the large pole. By this arrangement, the horse is required to travel about twice as fast as the fork rises. The more common way of using a fork is to dispense with the pulley at the fork, and hitch one end of the rope to the bail, and the horse to the other end, by simply passing the rope over a single pulley at the top of the small pole. In this case, the fork rises as fast as the horse moves. When only one pulley is used, the work is done much faster than with two, and it will not require so much force to haul the fork back to the load. But, if a horse will not draw steadily, or is disposed to start suddenly, it is better to have a pulley at the bail of the fork. The manner of pitching hay, with such an apparatus, is to hold on to the forkful until it rises clear from the load, when a side thrust swings it over the stack. Then the stacker pushes it where he wants it, as nearly as practicable, and gives the pitcher a signal to drop it. But this cannot be done with long-handled forks, which must be balanced by a cord at the end of the handle. Sometimes a man, or boy, on the stack, hauls the forkful from the load over the stack, by a cord.

To Hitch a Horse to the End of a Rope.

The usual way of hitching a horse to the end of a rope when pitching hay with a horse hay-fork is, to use a whiffletree. But as the horse is required to back up at every forkful, he is liable to step on the whiffletree, or outside of the traces, unless much care is exercised in drawing the whiffletree back as fast as the horse moves. The accompanying illustration represents the manner of hitching a horse to a rope, so that he can not get his feet out of the traces, even if he is backed rapidly, or turned around carelessly. The end of the rope is fastened in a ring which holds a hook for securing the cockeyes of the traces. A wooden stretcher two feet long, and an inch-and-a-half in diameter, shaved or turned round, having a small iron gudgeon driven into each end, and extending half an inch beyond the wood, is put between the traces, so that it rests against the hams of the horse, when he is not drawing. A hole about one fourth of an inch in diameter is punched or bored through each trace, for receiving the gudgeons of the stretcher, which is suspended by two straps fastened near its ends, and rein snaps are sewed to the other end of the straps, which are hooked into a ring in the back strap of the harness, as shown by the illustration. If chain traces be



used, the gudgeons may enter the links. If the traces are to be released, they drop from the stretcher, when the straps may be unhooked.

Another great advantage of hitching a horse in this manner is, a boy may be put on him when pitching; and instead of backing the horse at every forkful, he can turn him directly around, and let him walk or trot back to the starting place, much sooner than he could be backed. This arrangement renders it easier for the man who pitches, as he is not required to draw back so much rope and the fork besides. If the horse, in turning, gees around over the rope, he will soon untwist and spoil it. When he comes around in the opposite direction, he twists it once at every round, making it harder and harder. It is better to twist than to untwist it, as the twist can be easily taken out.

Fig. 1.—ELEVATION.

Small, Convenient, Cheap Houses.

BY NARRAGANSETT.

The cottage plan presented herewith, is designed for a family of two or three persons, who desire to live in a very snug, but at the same time, respectable way. The main part covers 18 ft. x25 ft., with an addition of one story in the

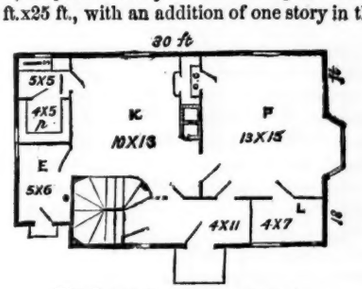


Fig. 2—PLAN OF FIRST STORY.

rear, of 5 ft. x16 ft. Many conveniences will be found compressed within this space.—The principal rooms upon the ground floor (fig. 2,) are a parlor (*P*,) and kitchen, (*K*,) connecting with each other and with the front entry. The kitchen has, adjoining it, a sink room, (*S*,) pantry, (*p*,) and back entry (*E*). From the front entry is a way to the cellar. At the turn in the cellar stairway there should be a broad landing, making it much more easy of descent. A china closet (*c*, *c*,) opens into the parlor and connects with the kitchen by a slide. The parlor is provided with a bay window which gives it character and adds much to the pleasantness of the apartment. From the side of the parlor a little room, or closet, opens, which, by persons of some literary taste, will be highly appreciated. We dignify it with the name of library. Furnished with shelves and a little desk, with books and writing materials, it will be found a great convenience—a most desirable appendage to the parlor. The window in the library, and the corresponding one in the hall, should be nar-

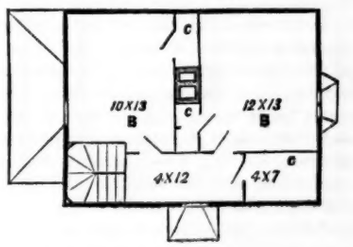


Fig. 3—PLAN OF SECOND STORY.

row, not more than two feet wide.—The upper floor (fig. 3), comprises two bedrooms with a closet from each, and a large store closet for clothing, etc., opening from the chamber entry.

This plan is designed for a situation upon the *north* side of a road running east and west, and for placing the *end* of the house to the road, bringing the kitchen upon the east side of the house and the parlor to the east and south. The bay window would also give a western view. The plan would answer well also, with slight modifications, for a situation upon the *east* side of a road running north and south. In that case the entrance should be toward the road, the kitchen and parlor retaining their positions to the east and south, and a transposition should be made of the back entrance and pantry as in fig. 4, bringing the entry more to the rear. The hood over the main entrance may be supported by brackets, from three-inch plank, seen distinctly in the engraving, fig. 1. The posts of the house should be fourteen feet, the roof projecting at least twenty inches, with a sharp pitch.

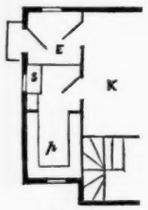


Fig. 4.

Thinning Corn in the Hills.

Thinning should always be done as soon as practicable after the corn has come up. This is usually done at the first hoeing, but should be delayed till danger from the grub, or cutworm, is over. Unless careful laborers are employed, many hills will be neglected. Superfluous stalks may be removed at any convenient time, even in lowery weather, when the soil is too wet to be worked with cultivators or hoes. The best manner of doing this is to cut them off close to the ground, with a sharp knife, and drop them near the standing corn. The stalks should be removed from the middle of the hill, that the remaining plants may stand as far from each other as possible; the farther they stand apart the larger the ears will grow. When the stalks are pulled up, they will often loosen and break the roots of those that are left, but, if cut off as directed, the roots soon die. If care be not exercised in dropping only a proper number of kernels in a hill, much labor will be required to thin out a large field. Still it is better to do so than to allow five or six stalks to grow where there should be only three, or at most four. There will be more and better grain on four stalks than on a larger number.

Top-Dressing Grass Land.

The practice of burying organic manure deep in the soil is fast passing away. The air cannot readily reach it to decompose and render it available for the food of plants, and if it did, the great mass of the roots of grasses would not penetrate to find it. They prefer the first few inches of soil near the surface, where they get the benefit of the rain and air, and the well prepared food which abounds there. The plow and the spade should indeed be thrust down deep, but the fresh manure should not be deposited below the deep-turned furrow slice, but nearer the surface, to enrich the soil only as the rains carry it down, or as it becomes thoroughly incorporated with the soil. The letters of our subscribers continually testify to the benefits of top-dressing meadows and pastures. One declares that though the farmers in his section suffered from drouth last season, yet those fields which had been dressed early in the previous autumn with muck, or muck and manure composted, or even strawy manure, suffered little and bore handsome crops. It is a growing practice of many good farmers to apply manure over their meadows immediately after haying. They hold that it protects the newly-exposed roots from the scorching sun, and brings up the aftermath vigorous and abundant. The loss of volatile matter which probably takes place is not so bad as the effect of a parching heat on the exposed green roots.

When the land is rolling, the knolls should receive heavier dressings than the low and level land. If carted out and spread after mowing or in autumn, it acts as a mulch, protecting the roots of the grasses, and preventing their being thrown out by the frost. This work can generally be done cheaper in autumn than spring, and with less injury to the land from the trampling of teams. For lawns, fall dressing is always preferable to spring, because the manure gets washed down close to the ground and out of sight during the winter, and so does not interfere with the close cutting in summer.

Manuring Corn after it is Up.

Circumstances sometimes render it impossible to thoroughly prepare corn ground before planting, and it is often advantageous to manure it after it is up. This must be done at the time of the first hoeing. Along the seaboard where the Moss-bunkers or Menhaden are taken in such great numbers, they are much used. A shallow furrow is made with a small plow, on each side of every row, a few inches from the hills, turning the earth away from the row; then one fish is placed in the furrow on each side of every hill. Should the furrows be too shallow in some places, the earth is worked out a little with the foot or hand-hoe, so that the fish may be placed below the surface of the soil. Then the earth is turned toward the hills, and the corn hoed. If the fish should be displaced, the workmen bury them again close to the hill. By the time of the second hoeing, they will be pretty thoroughly decomposed. Where there is not an excess of water in the soil, this kind of manure produces a very luxuriant and rapid growth, as well as good yield. A similar method is sometimes practised with barn-yard manure, the earth being turned from the rows as previously directed, a small shovelful of manure is placed on each side of every hill and covered. The manner of distributing this kind of manure is, to drive a loaded wagon astride of one row, so that two hands can each apply the manure to two or three rows on each side. When turning a wagon around over the young corn, if a wheel is liable to run directly on a hill, place short pieces of plank or rails on each side of it, which will lift the wagon over without injuring the corn. Lime, gypsum, ashes, guano, hen manure, or any other similar materials may often be very profitably applied, at the first hoeing. They should always be sprinkled over an area of several inches in diameter, all around the hill, and covered and mingled with the earth in hoeing. Guano, or strong hen manure, if applied in this manner, will never work injury to the young plants, unless they come in direct contact with them, or an inordinate quantity be used.

To Pitch Hay into a Window with a Horse-Fork.

To be able to use the horse-fork in pitching hay into a window, set a pole, in front, as high as the top of the window, and distant the width of a load of hay—say 14 feet. Fasten a pulley at the top of the pole, and one at the bottom of it. Nail on two braces, or stay-pieces, from the top to the side of the building, to keep the post erect and firm. Now let the rope pass around the pulley, at the bottom of the post, thence over the pulley at the top, thence under a pulley at the bail of the fork, thence in at the window and over a pulley at the opposite end of the loft, thence back to the bail of the fork, where it is made fast. The fork, with its load, will rise as high as the window, and then move off horizontally, to the other side, or end of the loft; or its load may be dropped at pleasure. It will make no difference where the inside pulley is, if it be only placed higher than the window, and several feet directly back from it, so that the rope will not draw into one corner. When the window is in the end of a barn, let the pulley in the barn be attached as far back as it can be conveniently, and considerably higher than the top of the window. Windows should be not less than 4½ feet square, in order to admit a forkful freely. Let these directions be followed out to the letter, and any one can put up this arrangement correctly, even if he has never seen it done before. We once put up a horse-fork rigging, with which hay was carried horizontally 20 feet, and then after rising 10 feet over a beam, was carried onward 40 feet further.

Castration of Calves and Colts.

Every farmer who raises domestic animals ought to understand what effect castration of a young male animal is likely to have on the proper development of certain good points, as well as what the effect will be on other points if he is not castrated. By performing this operation at a certain period, or by delaying it for a few months, or a year or more, results can be secured in developing a good form and symmetry in some animals, which never could be effected by any other means. Take for example a bull calf having a large head and neck, and deeper and heavier forward than behind, in short, bull-shaped: if altered when only a few weeks old, as he grows he will retain in a measure the same form, looking like a so-called stag. On the contrary, if castrated when only a few days old, his hind-quarters will be much better developed; and his head, neck, and shoulders will be in much better proportion to the other parts of his body, as an ox's should be. On the contrary, if a bull calf be very broad and heavy behind, and have a cow's head and neck, castration should be deferred for several months, in case he is to be raised for the yoke. It is a well-established rule, that the earlier a calf is castrated, the better will be the beef; while the longer he is allowed to go, the coarser it will be, and often the worse his form.

Farmers do not generally pay sufficient regard to the fact that the time of gelding the colt makes a great difference in the shape of the mature horse. The usual time is when the colts are a year old, without reference to their points. There are at least some views, in which all good horsemen agree, as to the *effects* on the development of certain *points* of the colt, as well as on his *disposition*. In some special cases the castration of colts should be deferred until they are three years old; while others should be gelded at that particular period in their growth, which will favor the more perfect development of certain points of form and symmetry. This occurs sometimes at the age of a few months, a year, two years, or more. It is quite difficult to lay down practical directions on this point. To be able to decide when a

colt should be castrated, requires observation on the subject for many years.

Gelding renders colts heavier behind, and narrower and lighter forward. When a colt is so fearless and willful that there are fears of his becoming vicious, immediate castration will check the farther development of such disposition. When a colt is very narrow across the breast, and has a small neck and head, unless he manifest a very refractory disposition, it may be well to defer gelding until he is even three years old, in order to improve his form and style. Colts usually make faster travellers for short distances, if gelded when not more than a year old, than if it be deferred; but their powers of endurance are less. Stallions that have been kept for service for several years, and then altered, are rendered much slower in gait; and those that were difficult to manage, are usually rendered much more tractable. Entire horses are usually fearless, and not apt to be shy at rustling sounds or strange objects; but colts that are gelded very young, if their dams shy at unfamiliar objects, will be liable to lack courage, and be always ready to sheer off at the sight of black stumps and such things, or to run away whenever any part of the harness or carriage becomes deranged, which tendency can rarely be counteracted, except by the most careful and patient training. Colts should never be castrated when poor or sickly, nor in stormy weather, unless they are kept in a comfortable stable until they are entirely healed, as danger of inflammation arises from being exposed to cold storms and chilling winds. Many times when the wound appears nearly healed, a colt will swell up and die, in spite of all efforts to save him. Farmers cannot be too careful in keep-keeping horses, after castration, in warm stables.

Scuffle Hoes, Hoeing, and Carrots.

A Rhode Island correspondent is enthusiastic on Scuffle Hoes, and inspired by the article on page 51 (February), sends to the *American Agriculturist* a long and interesting letter on the subject, from which we condense the following:

"I have several Scuffle Hoes in running order—all handled with old rakestales. The narrowest, which I use but little, is 7 inches long. In early spring and after rains, we run them 9 inches, and for general use, in good hoeing weather, we use four 14 inch hoes. In my work, which is more gardening than farming, they saved more money last year than a mowing machine would upon 50 tons of hay. But any one with a garden needs a set of Scuffle Hoes. I use them upon gravel walks and roads, plantations of trees and shrubs, and all sorts of garden crops. In field root crops, such as carrots, beets, turnips, onions, and parsnips, they are invaluable, as also to cut up weeds among young corn and potatoes. Among carrots and mangolds last year, I had no 'thumb and finger work,' except thinning mangolds. Soil sandy, with plenty of gravel, pebbles and cobble stone even after a pretty close picking. With this hoe one can loosen the surface, cut up weeds, and give a uniform crumbly appearance to the soil—far better looking to my eye than if worked with a rake, and more lasting, and leave no foot track upon the ground, the pressure of the foot being, as every observant gardener knows, all that many weeds need to plant them again. The power is applied to the object resisting the edge of the hoe—a root of grass, or bit of manure, corn stalk, or cobble stone—*directly from the shoulder*. My handles are about seven feet long. In light hoeing where the ground has been properly plowed and harrowed, I grasp the end of the handle (which should be a little enlarged) in the hollow of my right hand, and do the cutting almost entirely *from* me. The edge toward me, in the short and quick succession of from 3 to 6-inch thrusts, necessary to complete a stroke, is chiefly useful in breaking the surface and jerking the weed-roots to the sun and air. If the edge is hung properly to cut with a motion *from* the body, it will be necessary to stoop to bring the near edge to bear upon the ground for the drawing cuts. These tools can be used either walking backward or forward. In the garden, I often walk backward; in the field forward, making a succession of short thrusts. In dressing a walk, or a plantation of shrubs and trees, beaten down hard by rains, it will be found convenient to shorten the hold upon the hoe handle, letting the end play under the arm—a change which often gives ease and rest—as also does changing hands entirely.

The early clearing of carrots and other small plants is apt to be troublesome. I always endeavor to plow early—generally, in the field, to plow twice—which gives me a chance to kill one or two crops of weeds. The single form of Share's Coulter Harrow is a most admirable tool for working the surface and killing weeds upon a large scale. The surface should be rich, too, and the seed put in as late as will do, and immediately after a working of the ground. If the seed-barrow is run crosswise of the harrow marks, or if the ground is bushed, the barrow will leave a mark easily seen before and after the plants are up. I start the Scuffle Hoe when carrots are about half up. The hoe can be run in a careless manner through between the rows, leaving a strip three or four inches wide containing the drill mark—in reality leaving all the real work yet to be done. I know of no time when weeds can be destroyed so easily as when they are still in the seed leaf—or better yet, like threads of silk, before they get to the surface. I think there is, easily enough, a difference of $10 per acre of carrots, between an early attack upon weeds and a late one. I plant some 18, 20, or 22 inches apart, and at the first hoeing take my position between the outside and second drill, reaching over a little and hoeing the outside of the outside drill, running my hoe quite shoal, with short, quick strokes, and cutting as close to the drill as possible. If the row is a long one, I have no doubt but the position and work will be tiresome, but turning at the end gives an entirely new position—and the workman can change hands if he likes—walking back in the same alley, but close to the second row, and hoeing the inside of the first—thus going round each row and leaving no tracks but the 'wake' of the hoe. If the ground is in fair condition, what with the close work and the little roll of light earth moved by the side of the hoe, the ground up to the drill will look as if it had been entirely worked. The hoe turned up corner-wise will pick a weed out of the drill or knock the soil from a tuft of grass or weeds very deftly. By this process the space between the drill-marks which is of very little importance will be worked doubly in parts—allowing all the attention to be concentrated upon the drill and the side of the hoe.

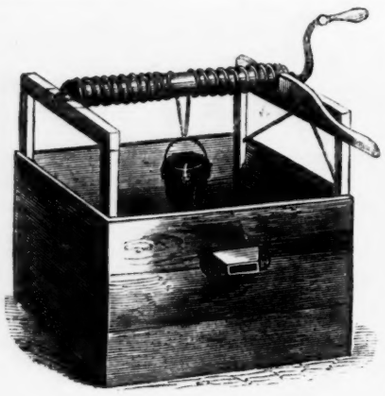
The dextrous use of an ordinary hoe is a matter of early training and use, which the mass of our laborers never get. It is quite as difficult to learn as the use of a scythe. The use of the Scuffle hoe can be far more readily learned, and if it become rightly understood and appreciated, all the tribes of wheel hoes and hand cultivators will be sold for old iron."

Pure Water—Health of Stock.

Our correspondent, "N. S. T.," Essex Co., Mass., in the following communication, directs the attention of the readers of the *Agriculturist* to an important subject. Foul water is the fruitful source of unthrift and disease in animals, besides, it is almost constantly operating, and in time will produce effects not perceptible at first.

"That farmer who has provided for his barnyard a never failing supply of good water, and an arrangement by which it is brought into the troughs or tubs without pumping or drawing, has a convenience, the value of which is not likely to be over-estimated; but it is a matter of no small importance that it be given to the stock fresh and pure. Because animals drink from a filthy trough or a muddy and stagnant pool with apparent relish, it does not follow that their sense of taste is of a low order and can not appreciate good feeding. Necessity too often compels them to drink anywhere, and whatever they can find. Long continued habit deadens or perverts the taste. But animals with unvitiated taste left free to choose for themselves, will find the purest water as quickly as the sweetest grass; especially is this true of the horse. Some are naturally very fastidious about both food and drink, and they often suffer from thirst rather than drink from a vessel or at a well they dislike. Some men entrusted with the care of stock, seeing a horse tasting and sipping, or playing, as they imagine, say he is not dry, or is whimsical, and bring him back to his stall, there to remain till thirst compels him to drink. Thus a real cruelty is ignorantly practised against a dumb beast, when a few moments' attention would discover and remove the trouble. Fresh, pure water means more than simply water free from sticks, dirt, or substances which are readily detected by the eye. Water exposed in shallow vessels to the atmosphere during warm weather, quickly loses its fresh and sweet taste. Should it remain in a stable twenty four hours, it becomes undrinkable from having absorbed the impurities of the air. Ammonia, carbonic acid, and all the gases escaping in the stable are absorbed rapidly and in large quantities by water. During hot weather these gases are always largely present, even in well regulated barns, and a tub of water exposed to the air in the stable yard, or cellar, soon becomes charged with them, and is unfit for any animal to drink. Besides being of a disagreeable taste, it becomes slightly aperient.

"A cover that fits closely to the trough or tub is of some service in keeping out dust and dirt, and preventing contact with impure air, but it is impossible to keep water in shallow vessels about a barnyard and have it absolutely pure. The safest plan of ensuring purity is to draw from the fountain head as often as wanted and when the animals have drunk, throw the remainder away. It is a common practice in summer to keep water in the trough to prevent its drying and falling into pieces. The more shallow a trough is made the less liable it is to dry up; but it is better to lose one occasionally than always give impure water to the stock. Scrupulous cleanliness in the care of all the arrangements for furnishing water commends itself to every thinking man who is the owner and lover of animals, in proportion as the ill effects of neglecting them are understood."



A Good Well Curb and Friction Brake.

A great deal of time and labor are saved in the aggregate by having a convenient way of drawing water. In deep wells, iron-bound oaken buckets are used, and will continue to furnish the most economical and agreeable way of getting the water, and it is very important to be able to let the bucket down into such a well rapidly and safely. A correspondent in West Edmeston, Otsego Co., N. Y., furnished a description and drawing of Brown's Friction Brake. It is a lever, made of hard wood, 2½ feet long, 1½ inches thick, and 6 inches wide, shaped as seen in the engraving. One end is shaved down for a handle, and near the other a circular section is cut out, which is the place that bears against the windlass. It is hung on a strong pin, braced by iron rods, and in such a way that the broad end shall fall quickly away from the windlass when the hand is taken off.

The well curb is made 2 feet wide, 3 long, and 3 high, boarded up two feet. The posts are 2 inches square, and the end ones framed together by strong cross-pieces, on which the windlass, or roller rests, having its bearing about 8 inches from the back ends. The crank, gudgeons ratchet, etc., do not differ from those of ordinary well curbs. The bucket is suspended by two ropes, the effect of which is to cause it to come up with the same side to the front every time. If on this front edge of the bucket a little iron horn, or spur, be placed, and a bail of stout wire be fixed upon the curb, so as to catch in the spur when it comes up, the bucket may be emptied easily into the spout without the necessity of handling it at all. (Our artist has represented the bucket too small, and the horn too large in proportion.)

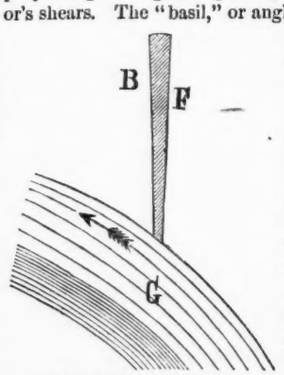
A very convenient kind of bucket is that made with a cast-iron bottom, in which there is a valve, which opens and allows the bucket to fill instantly, as soon as it reaches the water.

The Art of Shearing Sheep.

It is essential to good shearing to cut the wool but once, to shear smoothly and very close, to keep the fleeces whole, and to avoid cutting the sheep. When a shearer does not shear smoothly, but cuts a portion of the wool two or three times, there is not only a loss in the weight of the fleece, or if the clippings be included in the fleece, a loss in its value to the manufacturer, but much time is consumed in making the sheep look smooth. When the fleeces are torn to pieces by unskillful handling or the floundering of the sheep, it is impossible to do them up neatly and show the wool to advantage. The chief difficulty in shearing sheep arises from their struggling. To prevent this, some tie their legs; but this practice is quite objectionable, and no good shearer will adopt it. Sheep will kick and flounder but little if they be managed gently and carefully. Every shearer should have a mattress of straw, at least five feet square, and so thick that his knees will not feel the floor while shearing a sheep. The object of the mattress is also to make it easier for the sheep. Laid on a hard floor sheep will make desperate efforts to gain their natural position, and if jammed down violently on the floor, or boxed, or held uncomfortably beneath the knees, as they often are by unskillful shearers, instead of keeping quiet they flounder and kick worse and worse. Placed on a mattrass, their position is comparatively easy; and if handled gently, the fleeces will be torn but little. The sheep pen should be well littered with straw to prevent carrying much dirt on the shearing floor; and sheep always shear better if they are full and round than when empty. Even expert shearers are very liable to cut the skin of poor thin sheep. No man can shear a sheep well, unless he have good shears and keep them in good cutting order. See remarks on shears under another head.

Grinding Shears—Sheep-Shears.

The accompanying illustration represents a transverse section of a grindstone, *G*, and one of the blades of a pair of shears with the edge resting on the periphery of the grindstone at the proper angle for grinding sheep-shears, or tailor's shears. The "basil," or angle at which the cutting edge is ground, varies in shears for different purposes. When shears are designed for cutting tin, sheet iron, copper, or any other metal, grind the basil at a more obtuse angle than is here represented, in fact, nearly at a right angle to the face (*F*). When the basil is ground too beveling, the edge of the shears is so thin that the steel will crumble off, or bend over, and thus effectually prevent the shears holding a good keen cutting edge.



ANGLE FOR GRINDING.

The correct way to grind shears is to hold the blades directly across the face of the grindstone, with the face of the blade (*F*,) turned from the operator, while the stone (*G*) revolves toward him. Thus the steel is swept clear from the cutting edge; and the operator can always see at a glance when the blade is ground just enough. On the contrary, when the stone revolves in the reverse direction, a thin curl of steel will gather on the cutting edge, unless the shears are tempered highly, and are too hard to retain a good edge. This will be likely to deceive the operator who will probably grind away even after the blade has been ground enough. This is equally true in grinding edge tools of every description. The grindstone should run very true, in order to grind shears well, and the cutting edge should be afterward whetted on an oil-stone of very fine grit. Shears should never be ground on the face. Always hold the blade to be ground firmly and at the angle represented. When the blades are ground on a stone of coarse grit, and are not held firmly, but allowed to rock back and forth, it will be impossible to grind them so that they will cut well. It requires much more skill to put sheep shears in order, than to use them, and without sharp shears, no man can shear a sheep in a workmanlike manner. Another important consideration in sharpening sheep-shears is, to grind the points of the blades pointed, but a little rounded and smooth, so that they will enter the wool readily, but will not prick the sheep, or scratch the skin as they are thrust forward.

How to Hold a Sheep for Shearing.

Throw the right arm over the sheep, and grasping the brisket with the hand, raise it from the floor; remove all litter from the feet; then with the left hand take hold of one hind leg above the gambrel joint, and place the sheep

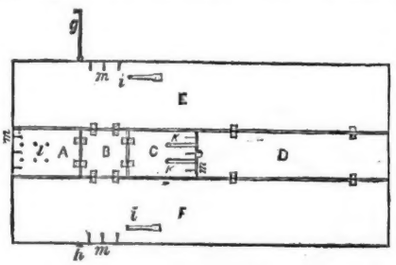
HOW TO HOLD SHEEP-SHEARS.

carefully on the mattress, in a sitting posture, resting against the shearer. Raise the forelegs putting them under the left arm, and shear the brisket downward, dividing the wool in the middle, as it is sheared. Then elevate the head and shear the under jaw, and a narrow strip along the underside of the neck to the brisket. Now, stand in front of the sheep, and begin at its foretop, and continue to shear from right to left, until the neck is sheared. Then, step behind the sheep, letting it lean against your knees, and shear the forelegs. Now, drop on one knee before the sheep, and let its body rest against your other leg until you have sheared one side, and one hind leg. Then change your position by resting on the other knee, while the position of the sheep is reversed, and shear the other side. Some shearers prefer to shear directly around the body of the sheep, and finish at the tail. Both ways have their advocates among good shearers, and beginners may adopt the one that suits them best.

The shears should always be placed flat against the side of the sheep, so that the points and heels of the blade will cut equally close to the skin. Never push the wool back, or take hold of it with the other hand while shearing, as you can not shear so evenly, and will be more liable to cut the sheep. The shearer may often use one hand to advantage in crowding or drawing the skin in such a manner as to make a smooth surface where the shears are about to cut. Every shearer should have two pairs of shears; one to cut the hard, gritty locks and another for shearing the clean wool. Some shearers can shear more advantageously and easier by having a table about 18 inches high covered with a mattress. Beginners should imitate the manipulations of expert shearers, and observe closely how they hold their sheep, their shears, etc. The correct way to hold a pair of shears is, to place the thumb lengthwise on the back of one of the blades, as in the engraving.

Fleece-folding Table.

A lot of wool well folded and neatly tied up, all the fleeces being of about the same size and shape, has a great advantage in market over that which is carelessly and irregularly done up. To secure this uniformity and neatness, folding tables, or wool-boxes, are used, and are, in fact, indispensable. We present below a plan for one forwarded to the *American Agriculturist*, by "J. C. V.," of Orleans Co., N. Y., "in the hope that it may be of use to some of its readers," as it doubtless will be. He thus describes it: "It is made of 3 boards, 6 feet long, the middle one 8 inches wide, and the others 12 inches. The middle board is sawed into 4 pieces, 12, 8, 12, and 40 inches long respectively, which are connected together, and with the sides, by 6 pairs of hinges as shown in the engraving. When used, the twine, in 6 pieces, is

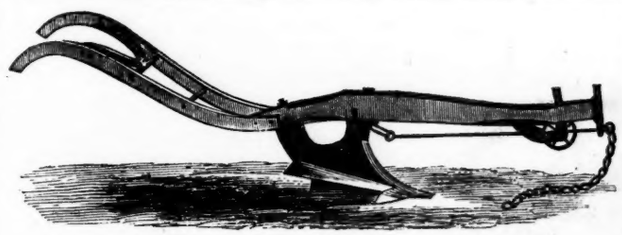


FLEECE-FOLDING TABLE.

drawn between the notches (*m*) in the sides and end pieces (*A*, *C*, *E*, and *F*,); then the fleece is laid on the table, the shoulders being placed on the centre piece (*B*). The sides of the fleece are then folded in, and the side pieces (*E*, and *F*,) raised and made fast in a perpendicular position by the hook (*g*) and staple (*h*). Next commence at the tail end and roll up the fleece without slipping it; then raise up the piece *C*, which will be held upright by the steel springs (*i*, *i*,), on the sides, then raise the piece *A*. [It strikes us that this should be held in a perpendicular position by springs or pins, but this is not specified by our correspondent.] Now take two small round levers, and putting them into the holes in *A*, press them down into the slots in *C*, and fasten them down by putting a pin through holes in the edges at convenient places. The fleece may now be tied; then unhook the sides and the box falls down, leaving the fleece as hard as a cheese and as white as a snowball. One man will easily do up the wool as fast as three or four will shear."

The Subsoil Plow.

The accompanying figure represents an implement called the "Lifting Sub-soil Plow." The standard consists of a flat piece of iron an inch or more in thickness, with two heads on the upper part, by which it is bolted to the underside of the beam. The point or share is made either with a wing on both sides, like a spear placed flat on the ground, or with the wing only on one side. On one or on each side of the standard there is an adjustable flange about three inches wide, over which the soil rises and drops back crumbled into the bottom of the furrow. The share and these flanges form an inclined plane. If it be desirable to elevate the soil much or only a little, the rear ends of the flanges may be adjusted to the desired hight by means of bolts passing through the standard. The higher the rear ends of the flanges, the hard-



SUBSOIL PLOW.

er a plow will draw, and the more thoroughly it will pulverize the soil. A draft rod and dial clevis attached to the beam, enable the plowman to so adjust it as to run directly in the furrow made by the common plow, thus breaking up the compact subsoil, and leaving it in the furrow. When a farmer has but one team, he plows one furrow round the field or land, and then hitching to the subsoil plow goes round again in the same track. In order to pulverize the subsoil very thoroughly, it is necessary to cut narrow furrow slices, and to use the subsoil plow when the ground is cross-plowed as well as at the first plowing. Subsoiling thus for two or three years, the ground will be pretty well pulverized to the full depth the subsoil plow reaches. When the plow cuts wide furrow slices the subsoil plow may be run twice in the furrow. When this is not done, and especially if the field be subsoiled only one way, the subsoil will not be more than one third or one half broken up. A span of horses, or yoke of oxen will draw a two-horse subsoil plow ten to fourteen inches deeper than the first cut through a pretty compact subsoil. When run deeper the draft increases very rapidly, and the pulverization is not so complete. Two or three spans of horses or yokes of oxen are usually required if the subsoil plow be put down 18 or 20 inches deep, as is not unfrequently done in preparing ground for orchards, vineyards, hop-yards, etc.

Subsoiling Wet Ground.

When any kind of subsoil is not dry enough to crumble readily, running the subsoil plow through it will have little good effect, because it is pressed by the passage of the plow into a smaller compass, and as it does not crumble, it settles back very much to its former bed, occupies less space, and, when the surface water is dried out, it becomes more compact than it was before the plow disturbed it. If the land be thoroughly underdrained, before the subsoil is broken up, it will be crumbled and lightened up. Months must pass before the lumps will wash down so as to materially fill the interstices, and the subsoil will not become so compact in several years as it was before subsoiling. It is, therefore, of little or no use to subsoil wet, heavy soils, before they have been well underdrained. For this reason, many farmers, on soil which is exceedingly wet, with the subsoil compact and retentive, have experimented with and condemned the subsoil plow. We have known subsoiling to be done when the water would be driven along in the furrows before the plow, by the turning over of the furrow slice. The consequence was that the more the subsoil was worked, the harder and more compact it became, as soon as the water had dried away, and the more difficult it was for roots of plants to spread in it. As a natural consequence, such poor results had a tendency to bring subsoiling into disrepute. If the wet and heavy soils be well underdrained, and subsoiled when just dry enough to crumble, good results will invariably follow, if the work be thoroughly done. This process on many farms would add several acres of ground available for increase of crops as certainly and with less cost than buying additional land. Better grow 80 bushels of corn on one acre, than to plant and cultivate one and a half acres for the same crop.

Halter-breaking Young Colts.

Young colts, when their dams are used in a harness, are frequently troublesome about following, especially when traveling on the highway, where they are liable to meet other horses. It is common to see a young colt run directly away from its dam, when on the road, and becoming bewildered, no little trouble is required to bring it back. To avoid all annoyance from this source, make a soft halter suitable for the colt's head, and hitch it to a strong fence, or some other place, where it can not run around a post and wind the rope up. It may pull for several hours, but will soon learn to stand. As soon as accustomed to the halter, the colt may be taught to lead, by placing the dam a few rods distant from where it is hitched, and leading it toward her. It will be impossible to lead a colt away from its dam, until it has become well accustomed to the halter. By spending a little time with a colt, treating it with the greatest gentleness, it may be taught to travel by the side of its dam, wherever she goes.

Tie the colt's halter to the backband of the dam's harness, so that it can just reach her udder. This length of halter will prevent the colt running forward of the mare when she is traveling. In a few days it will become so gentle, that any one can put on the halter and handle it. When colts are not accustomed to the halter until they are two or more years old, they are frequently very difficult to manage. But if taught to lead when quite young, they can often be changed from one place to another, with little difficulty, and will be much more manageable.

Halter for Horses that Pull at the Post.

A correspondent responds to an inquiry for a way to manage horses that pull at the halter, by sending the accompanying drawing of a halter which he has been in the habit of making and using for many years. The construction as may be seen from the engraving, is very simple. It is held upon the head by a throat-latch like a bridle, and the end of the leading strap passes through the ring on each side, and is sewed strongly to the strap about 14 to 18 inches from the end. When the horse pulls, this loop in the strap tightens powerfully, drawing the muzzle piece, and pressing the rings against the jaw on each side in a way, doubtless very uncomfort-

able, but not so as to injure the horse at all; besides the draft chiefly comes upon the muzzle and not upon the head or neck, as is the case with common halters.

Stocking Down to Grass, with or without Grain.

The notion is prevalent that it is essential to the life and growth of young grass to raise a crop of some kind of grain, while the tender spears are becoming sufficiently rooted to endure the dry and hot weather. But the shading of the ground is not essential to the growth of clover or grass, unless the seed be sowed very late in the spring, or during the summer, and where the soil is not rich and mellow. On moderately fertile and mellow soils, though no crop of grain be allowed to grow, clover or grass seed of any kind will ordinarily succeed much better than otherwise. If the soil be quite poor and likely to parch during drouths, a small quantity of rye per acre will afford the young grass the benefit of some shade. Grass needs no shade even in dry weather after it has itself become large enough to shade the ground, but is benefited by the sun and air quite as much as other plants. Another consideration, not to be overlooked, is, that any crop occupying the ground, with the young grass, withdraws both nutriment and moisture from the soil, which might essentially benefit the more important but feebler crop.

There is probably no better grain than rye to sow where a field is to be stocked down to clover or grass. Wheat is second to rye in this respect, and is superior to oats and barley, which are quite objectionable when the usual quantity is sown per acre, on account of the large leaves and thick bottom growth which is liable to choke the young grass, while rye shoots upward rapidly, and does not grow thickly at the bottom. Were oats and barley sowed thinner on the ground than usual for a full crop of grain, grass might grow quite as well as with a crop of rye. Another point in favor of rye is, it usually keeps erect better than either oats or barley. On light soils where there is so much humus or vegetable mold as to cause a large growth of straw, if the grain lodges as it often does, almost every spear of grass will be killed. As spring rye is often a good crop to grow in a four or five years' rotation, many farmers will find it profitable to arrange their rotation so as to raise spring in preference to winter rye when land is to be stocked down.

For *good* farmers, the following directions will be of little or no value, and may appear quite untimely, but many need the exhortation. As most of our grass is cut with horse-mowers, it is quite important that the surface should be smooth, free from knolls, hollows, dead furrows, ridges, and clods. And even if it be mowed by hand, the surface ought to be smooth, so that the grass may be cut close to the ground. Where there are knolls and hollows, the most expeditious way is to level the knolls with a team and dirt-scraper, either after or previous to plowing. When there are ridges formed by back-furrowing repeatedly in one place, turn back furrows into the hollows, and finish off lands with dead furrows where the ridges are. By measuring the distance from ridges to furrows, even where they are not uniform, the dead furrows may be made in the desired place. After the ground has been sufficiently harrowed, if there be loose sods and lumps of earth, throw them into the lowest places, with manure forks, and make the surface as smooth as practicable. Then roll, and sow grass seed. This will form not only a smooth surface to work on when harvesting the grain, but will be smooth for the mower, horse-rake, and loaded wagon or cart, when cutting and gathering the crops. A few hours spent in this manner will not only improve the appearance of the surface of a field, but be a source of much profit when harvesting the grain. Sometimes driving storms occur just before grain is fit to harvest, which prostrates a large proportion of it. Then especially, if the surface of the ground be smooth, the grain can be cut much more advantageously than if it be covered with bogs, lumps, and sods.

Management of Barn-Yard Manure.

It is very often the case that manure is allowed to accumulate and remain undisturbed in the yard during the summer, after which it is hauled to the field and applied for winter grain. Treated thus, it rots but little, but if forked over, it would decay very rapidly. In some instances, corn stalks, straw, and stable manure are mingled together, by being spread evenly over the entire yard, and are pressed firmly together by the constant tread of animals. Mr. Isaac Peck, an excellent farmer, of Fairfield Co., Conn., recently related to us his manner of preparing barn-yard manure for winter grain. His yard is constructed so that no liquids flow from it, except sometimes during very heavy rains, and this is conducted upon a field, and not to the brook or river. His corn stalks are fed out in the yard, where the large buts become mingled with refuse straw and stable manure. During days in summer when laborers cannot work to advantage on the farm, they commence on one side of the yard and fork the manure over, turning it clear to the ground. If there is too much straw or corn stalks in one place, they are scattered over a larger surface, so as to mix different kinds as thoroughly as possible. By forking it over in this manner, the coarse portions will be fined, and sufficiently decayed by autumn to make it possible to spread it evenly, and it will be in a far better condition to benefit wheat, or any other winter grain. Mr. Peck usually applies most of his barn-yard manure to his winter grain, and by this system he is able to raise good crops of wheat where the soil was formerly considered poorly adapted to that kind of grain. We do not commend our friend's way of treating corn stalks—that is, feeding them out whole on the ground in the yard; but thousands of very good farmers will do so, though they lose about half the value of the fodder. In regard to working over the manure in the yard, however, his practice is excellent. If he had muck at hand, and could put over a good layer of it, or of sods, every time the manure was worked over, it would greatly increase the value of his manure crop.

Management of Red Clover for Seed.

When the chief object is to raise a crop of seed, whether the clover is grazed or mowed off, it ought always be done in the month of June, in our latitude, and previous to the full bloom. It is not practicable to raise a good burden of hay and a crop of seed on the same ground in one season; nor can one expect a full yield of seed if the clover be grazed too long. If the large, or late kind of red clover be allowed to stand until it is in full bloom before it is cut, there will be only a small crop of seed. The most successful way of managing this kind of red clover is, to pasture it until about the 15th or 20th of June; in New-England, or New-York, never later than the 20th of the month. It has been our practice to feed it down close just before shutting the animals off altogether, and if there was more clover than they could graze off close to the ground in a few days, the remainder was mowed, and usually left where it grew. The object in mowing off all the stalks that the stock leave, is to have all the clover start the second time as evenly as possible, grow uniformly, and all plants come to maturity at the same time, which is very essential. The seed on the portions of the field where the first growth has not been cut off, will come to maturity several weeks before the greater part of the crop is fit to cut. Consequently, most of it will shell off and be lost before the remainder can be secured. Many farmers, in their first attempts to raise the seed of the large kind of red clover, obtain only a small crop, simply because the first growth was allowed to advance too far.

In growing a crop of seed of the early, or small kind of red clover, the usual practice is to make hay of the first growth, though it is sometimes grazed off. Those who raise the largest crops of seed, cut the first time before it is in full bloom. They find this essential and aim to cut when about two-thirds of the heads are in blossom. The stalks and leaves will be very green at this stage; but every day it is allowed to stand after this, tends to diminish the quantity of seed of the succeeding crop. Consequently, when a farmer thinks best to allow the first crop of clover to come nearer maturity, for the purpose of having a greater burden of hay, he must remember that he will lose more in the yield of seed than he will gain in the quality and quantity of hay afforded by the first growth of the clover. If there be any weeds among clover, they should all be cut close to the ground, so that the clover will get the start of them and effectually suppress their growth.

Planting Broom Corn.

We have received a series of articles on the cultivation of Broom corn, and making brooms, from Abram Stokes, an experienced broom-maker, of Ulster Co., N. Y.; and we give his mode of preparing the soil and planting the seed. He says: "Select a dry, rich, deep loam, nearly free from sand, gravel and stones, and plow it deep—the deeper the better. A red clover, or timothy sod is best; because it will usually be free from weeds. Pulverize the surface as deep as practicable with a cultivator; or it may be plowed the second time, by using a plow with a sharp point, sharp coulter, and guage wheel to regulate the depth. In this way it can be pulverized more thoroughly than with a cultivator. Before plowing the second time, however, the ground should be allowed to settle after a heavy rain has fallen; or the sods may be pressed down with a roller. Plow the second time the same way as the first, running the plow as deep as practicable, without turning up portions of the sod. Harrow it thoroughly; and mark the ground one way with a small plow for planting in drills. It is better to have the rows run north and south, as the sun will shine on each side more uniformly.

I prefer the tall Broom corn, as it has been well tested and approved. The dwarf may succeed as well on some kinds of soil, where it will not grow too slender, which is a fault of this

kind of corn. If brush be too slender, the brooms bend too easily, and wear out too soon. When brush grows in the form of a panicle of oats, it is worthless. Such brush, however, is seldom produced except on a thin soil of gravel, or sand, with a clayey subsoil six or eight inches beneath the surface.

My manner of planting the seed is, to carry it in a small pail, and drop about one hundred kernels per rod [or about two inches apart]. After dropping a few rows, cover it with a harrow having 30 or 40 teeth, by driving the team one on each side of the drill. If the harrow be not drawn the second time over the ground, it will not displace any of the seed. When planted in this manner, the seed comes up well, grows more uniformly, and makes better brush than if planted in hills, as the stalks are more evenly distributed over the ground. In about twelve days, the young plants will be about three inches high. Now is the time to get the start of weeds by working among it with a horse and plow. For this purpose, the rear end of the mold board should be broken off just back of the share to prevent rolling the earth too far away from the young plants. [Some farmers, and ourselves among the number here named, prefer a horse hoe for this purpose.—Ed.] By turning the earth from the drills, the weeds will be subdued. In about ten days, it should be plowed again, going twice in a row. Then the plants should be thinned so that there will be about seventy per lineal rod. All weeds growing among the plants should be removed, so as to allow the sun to shine on the Broom corn. In about ten days more, it should be plowed again with a large plow having a short, crooked mold board, going four times between all the rows. Turn two furrows from the rows, and then turn them toward the plants, working the soil between the stems as much as practicable with the plow. In ten days longer, plow it again, going four times between the rows, as just stated, always turning the soil toward the corn the last time through. I always perform most of the work with the plow, and do as little with the hand-hoe as possible."

Cultivation of Buckwheat.

When buckwheat is sowed in the spring, or first part of summer, the hot weather which occurs when it is in blossom, prevents perfect fructification. Consequently there will be numerous clusters of kernels that will be blasted. For this reason the seed should be sowed, so that the hottest weather will have passed, by the time the buckwheat is in full bloom. Cool weather or at least cool nights are quite as essential to a good crop of buckwheat, as hot days and nights are for Indian corn. The point to be aimed at in every locality is, to defer sowing as long as possible and allow it sufficient time to mature before an early frost will destroy the crop. This period occurs at different times in different localities. In the latitude of Central and Western New York, the proper time for seeding is about the first of July. We have known buckwheat sowed as late as the 16th of July, which produced a bountiful crop; but in that latitude there is a great risk on account of the frost, if it is not sowed by the tenth of July. Our most successful farmers in this latitude, calculate to have their buckwheat put in as soon as the fourth of July; and in some seasons, even when sowed at that time, frost appears so early in the fall as to almost destroy the entire crop. In some localities it may be sowed the latter part of July, and escape frost. If the soil where it is sowed be well pulverized so that it will vegetate immediately, and if the grain is put in by the fourth of July or even by the tenth, a bountiful crop may be expected. When the ground is plowed but once for a crop of buckwheat where the soil is heavy, it is often so dry and hard, and breaks up in such large lumps and clods, that many farmers in waiting for rain to moisten the soil previous to plowing, are compelled to defer seeding until it is too late. But if the soil be plowed in the spring, it will not become dry and hard by the time it is to be plowed the second time, but will be moist and mellow; and the grain will vegetate soon.

Every intelligent farmer who is located on a heavy soil, that is apt to plow up lumpy, understands the importance of plowing it when it is just moist enough to turn up mellow. Buckwheat can not be expected to vegetate in time, and flourish luxuriantly, and yield a renumerating crop when the soil is a mass of dry lumps.

The Preparation of Peat for Fuel.

It is really wonderful, the manner in which a want, when it occurs, is supplied. As our forests disappeared before an increasing population, and wood for fuel became less readily obtainable, the immense coal measures were opened, and a better and cheaper fuel than wood was supplied. When whales became so scarce that illuminating oils were very costly, the wonderful petroleum deposits were found and made to give up their liquid treasures. Recently, from a combination of causes, coal has borne so high a price as to induce the search for some cheaper substitute, and attention has been directed to the heretofore almost neglected deposits of peat. Almost every State has its extensive peat bogs, or meadows, as they are called, containing vast amounts of a material closely analogous to coal in its composition, and like that capable of serving as a valuable fuel. These peat deposits have, thus far, been almost untouched, save that a comparatively small proportion of the whole has been used for agricultural purposes. When simply cut into squares and dried, peat makes a tolerable fuel, but when properly manipulated and condensed, it furnishes a product not unlike the best kinds of coal in appearance, and which is not inferior to it for domestic or manufacturing purposes. We learn from an interesting pamphlet by Mr. T. H. Leavitt, of Boston, that a company of Boston capitalists are engaged in developing this new source of fuel, and in supplying machinery to parties wishing to engage in manufacturing the peat in other places. It is said that the attempts at compacting the peat by pressure alone, have proved failures. The process of this company, as described to us by one of its members, involves the removal of all the fibres and kneading the remainder into a homogeneous mass, which readily becomes solid and dense upon drying. The different operations are performed by very simple machinery. The specimens we have seen were certainly very fine, and it is claimed that the prepared product can be produced at $4 or $5 per ton. The address of the association is the American Peat Company, Boston. We have no further knowledge of the company than what is here stated, and only call attention to the matter as one of great general interest. It has been found preferable to coal for generating steam in locomotive boilers, and, from its great freedom from mineral matter, it is preferred by steel and iron manufacturers to all other fuel. We shall be glad if the attempts now making to utilize peat shall result in giving us cheaper fuel and in unfolding a new source of wealth to agriculturist and land owners.

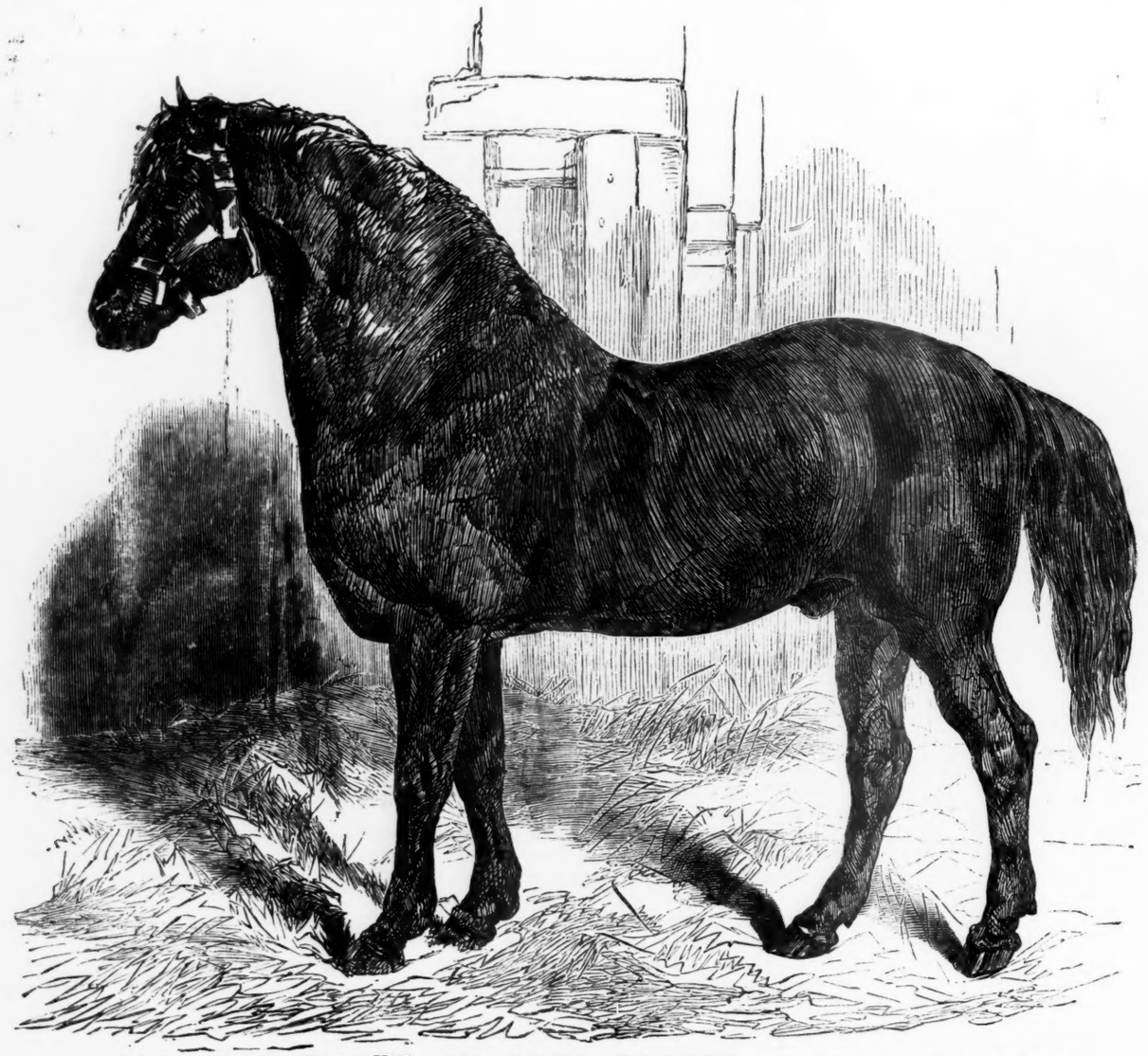
How to Make a Close Hedge.

The following communication from Joseph Coffin, of Jefferson Co., Iowa, gives his method of securing a tight hedge. The plan is not a new one, but we do not recollect having published it before. "I have read a great many chapters on hedging, and have seen a great many hedges, but I have yet to see the first fence made on the plan recommended by most writers on the subject. An Osage hedge of this kind shows better on paper than around a field of grain needing protection. The reason is this: where the hedge is cut off so frequently and closely, the sprouts are so weak and small, that as soon as the growth becomes sufficiently high to be of any use against large stock, the under twigs die out and leave holes between the plants. There is one mode by which the Osage can be made into a reliable, substantial fence, which is this. Set your plants two feet apart, and let them alone, except to keep the grass and large weeds from the roots, until they are five or six years old, or until they are two, or two and-a-half inches in diameter. Then, before the sap starts in the spring, take a sharp ax and commencing at one end, cut the plants, (or bushes they will be now) three-fourths or four-fifths off, and lay each bush down on the last one cut. The cutting must all be done on one side leaving the bark uninjured on the under side. Do not be afraid to cut them near enough off to allow them to bend down easily, as an inch of bark will keep an ordinary sized bush alive. The lower end of the body should be about four inches from the ground. Sprouts will start up from the roots and from the body, and run up through the tops, and make a fence that no rabbit can pass through. The future trimming can be done to the fancy, or the whole let grow up for a wind breaker.

"I think that when the hedge has become of sufficient size, it would be a good plan to set a sod of timothy or blue grass around it to prevent the growth becoming too massive and cumbersome. A strip of six or eight feet on each side would be sufficient, and would be much more neat and profitable than the weeds which would grow unless a great deal of extra care were taken to keep them in subjection. The great scarcity of timber in this prairie country leads me to urge the adoption of this plan, as I know by experience and observation that this is the only one so far introduced into this section of country that is reliable."

Breeding Horses for Heavy Work.

The influence of Agricultural Societies, with very few exceptions, and too much that of the agricultural press, has been thrown in favor of breeding a class of light active nags for the road and light work. And now the country is overstocked with these smart little Morgans and Black-Hawks, and other trotting stock, the popularity of which has, in our opinion, been a serious detriment to our horse-raising interests. The object with many breeders has been to secure style and speed, almost regardless of size and strength. The heavy work of the farm being done by oxen, and our farms in many of the horse-raising districts being small, the farmers themselves have not felt the need of heavier draft animals. However, it would be much



SIRE FOR HEAVY DRAUGHT HORSES.— *Engraved for the American Agriculturist.*

better for us as farmers if we used heavier horses, and there is in our cities an insatiable market for large and powerful animals as dray and truck horses, and for Express companies. Those possessing style and fine action bring enormous prices as gentlemen's coach horses. We present above the portrait of a Draught Stallion from one of Weir's drawings. It exhibits many of those points which the sire of large-sized horses for heavy draft should possess. We do not undervalue blood (that is, the blood of the English thorough-bred race-horse,) on the side of the sire; but there are many reasons why thorough-breds can not be generally used for crossing on large mares, and why the cross would be undesirable. Horses by blood-sires are very apt to inherit their temper, often none of the mildest, and a fractious great horse is a dangerous and unsafe piece of property. Probably the best class of sires for heavy stock, that would be available in this country, would spring from crossing thorough-bred stallions on large handsome Norman, or other large-sized mares. Such horses would be of large size, and in form and style combine the good points of the two races, and communicate probably many of their own excellences to their progeny. In selecting a mare, bear in mind that the qualities she chiefly imparts to the foal are size, constitution, form of body, and symmetry; while spirit and bottom, intelligence and action come more from the sire. The aim should be to obtain a mare of large size, having a large, roomy body, rather short legs, broad and deep in the chest, heavy behind, broad across the hips, wide in the pelvis, and carrying her hind feet well apart. The back should be short, the limbs clean and strong, the hoofs pointing forward, round, and solid, rather than long or flat. She should have a small head, large nostrils, and a full quiet eye, a neck sufficiently long to allow her to graze on level ground without spreading her forefeet, and more than all, possess high spirits, and a tractable disposition. In selecting mares, every one should be scrupulously rejected that has blemishes, or bad points, and especially constitutional defects, for such things are almost sure to be transmitted to the offspring. These things are to be avoided with as much care in the selection of a stallion as a mare. A celebrated stallion in Central New York, which had several spavins, got excellent colts; but before they were four years old, most of them were badly spavined; and some of them had spavins on both hind legs.

The important points we should seek in a stallion for the purpose we are considering, are: size, good form, muscle, bottom, vigorous health, quickness, and spirit. We can not expect to raise large horses from undersized stallions. Every other good point may be developed in the most desirable manner; but if size be wanting, he should not be used for raising horses for heavy work. The body of the stallion should be of as good proportions as the mare's; his back should be short; and his body round as a barrel, well ribbed back, and filled out in the flank, and not like the body of a greyhound. His head should be small and bony; his neck strong and of good length; his breast very broad from one shoulder point to the other; the withers high; the legs short, but very strong, having the hocks and knees low, and the legs below hard and smooth; the leg bones large and flat. Such a horse will not be liable to strain himself at a heavy draught; he will be an easy traveler, and his hind legs will not swing and twist out and in as he moves. The stallion should be solid and compact; kindly tempered, and plucky; and if possible, choice should be made of one which is known to impart with great uniformity his good points to his colts. It is neither necessary nor desirable to use a stallion as large as the mare.

The White Maple.—*Acer dasycarpum.*

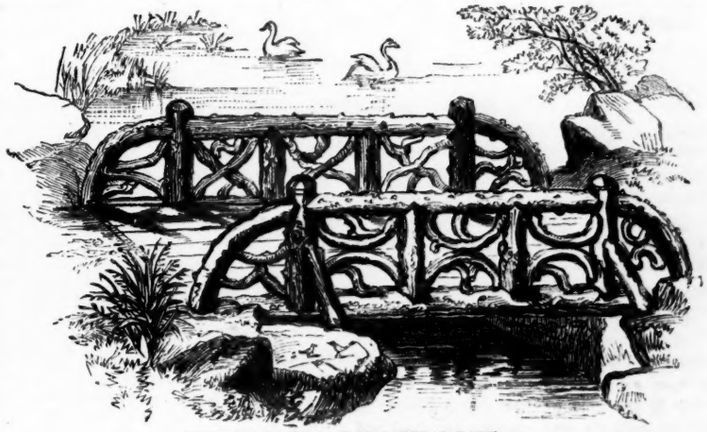
This tree is attracting much attention at the West as one of those possessing qualities which adapt it to planting on the prairies. It is sometimes confounded with the Red Maple, from which it is very distinct. The White or Silver Maple is found nearly all over the country, but attains its perfection in the Middle States, where it forms a stately tree. Its branches spread widely and form a broad head, but not a very dense shade. The young twigs are yellowish green, marked with brownish dots, but the older wood is gray. The leaves, of the shape shown in our figure, but considerably larger, are downy when young, but become smooth when old. The upper surface of the leaves is dark green, while the lower side is silvery white, the two surfaces affording a remarkable contrast of color, and a character which serves to distinguish the species from the Red Maple, the leaves of which sometimes resemble those of the White. The flowers, which are small, greenish yellow, and woolly, appear early in spring, before the leaves, and are soon followed by the conspicuous two winged fruit, which though hairy when young, becomes quite smooth when ripe. The shape of the fruit, which is nearly two inches in length, is shown in the engraving. It consists of two one-seeded capsules or "keys," joined at the base, and furnished with a broad wing which is beautifully veined. The wood is neither very strong nor durable, but it makes tolerable fuel and excellent charcoal. The spreading habit of the tree and its often pendulous branches, give it an aspect quite different from that of any other maple, and it is fine for ornamental purposes. Although its shade is not dense, this is more than compensated for by its greater freedom from insects than any other of our native species. It is not very particular as to soils, though it reaches its greatest development in rather moist and rich ones. The ease with which this maple is raised and the rapidity of its growth, especially adapt it to form timber belts on the prairies. The books recommend gathering the seed in the fall, which is about as possible as to make snow balls in August. The seed ripens very early and should be sown as soon as ripe. The time of maturity of the seed varies with locality and season, but it is usually toward the end of May or the first of June. Insects, birds and squirrels are very destructive to the seeds, and it is well to gather them before they fall. They are then to be planted at once in moist, well prepared soil. They are sown in drills an inch deep and the young plants kept clear of weeds, and carefully cultivated for two years.

Coal Ashes for Walks and Roads.

In February last attention was called, in a brief item, to the use of coal ashes as a serviceable material for making walks in places where gravel was not readily obtainable. A correspondent, "C. S.," at Montreal, Canada, has since written an account of his experience, as follows: "In the spring of 1863, I laid out a new vegetable garden, and having filled the walks 4 inches deep with chips from a stone-yard, I put on a 2-inch coating of coal ashes. After these had been carefully raked over, we let them be, and found that although they were not rolled, they very quickly packed solid. The walks were equal in every respect to those made with gravel, and they were more free from weeds and grass. They cost only the cartage, as people in the city are glad to be rid of the ashes. The cost was 12½ cents a load against 75 cents for gravel. Four years ago I laid out a carriage road of gravel, having 10 inches of stone underneath. We intended to cover this over with sand to keep the gravel from going down through, but when about one third of the drive had been thus coated, the supply of sand gave out. One half of the remainder was covered with brick dust, etc., the other with coal ashes. The whole was then coated over with gravel. The part on which coal ashes were placed, hardened first, and has, with much less labor, always been by far the finest piece. That covered with brick dust has been fullest of grass and weeds and has been the most troublesome, while that laid with coal ashes has been the cleanest, hardest, dryest, and in every way much the best. If I ever lay any more gravel roads or walks I shall certainly put a coat of ashes between the stone bottom and the gravel. Last spring I laid as an experiment a small walk, solely with coal ashes and with no stone in the bottom. I put in about 4 inches and the walk was good. It has been tried but one season."

Rustic Bridges.

It often happens that a brook which traverses the farm or runs through the grounds has to be crossed by a path, and it affords the proprietor an opportunity to introduce an ornamental structure in the shape of a rustic bridge, which, if the location is well chosen, will add much to the attractions of the place. To facilitate the crossing of small streams, we find on slovenly places a plank, or even a rail, made to serve as a bridge, but where the proprietor is more regardful of neatness and comfort there is usually a bridge of carpenter work. A bridge of rustic work is in much better taste than one carefully planed and painted, and can be made plain or quite elaborate according to the fancy of the builder. The best material for this, as for other rustic work, is Red Cedar, as the wood is not only of pleasing color and durable, but with a proper care in selecting, pieces may be found having a natural curve which adapts them to the use. In a bridge the work should be strong, and those parts in contact with moisture may be preserved by a coating of coal tar. The design may be graceful or express solidity, according to the size and situation of the structure. As an example showing strength and solidity, we give an engraving, from a sketch by one of our artists, of one of the small bridges at the Central Park. This bridge is in that part of the Park called the Ramble, and being subjected to constant use, is built in the most substantial manner. It was designed by Mr. Vaux, one of the architects of the Park. The Park contains many fine specimens of rustic work, in the way of seats, shades, summer-houses, etc., which afford examples worthy of study by those who would undertake the construction of anything similar. No stranger



RUSTIC BRIDGE IN THE CENTRAL PARK.

should visit New-York without seeing the natural and architectural beauties of the Park.

Pruning and Shaping Evergreens.

Once it was thought that evergreens must not be pruned at all; they would become diseased, or bleed to death. But at length it was noticed that when accident pruned them, they generally endured the operation, and were often improved by it. And so, in one way and another, we have learned that conifers may be cut and shaped as well as any other trees.

In transplanting an evergreen, if the roots have been mutilated in taking them up, we do not hesitate to prune the branches, just like those of deciduous trees. If large branches need taking off, apply shellac varnish to the wounds. Sometimes a conifer loses a side branch. It is harder to fill up such a gap than it would be in a deciduous tree. But by drawing the adjacent limbs around and tying them together over the gap, they will soon conceal it. Sometimes a tree, like the Norway Spruce and Silver Fir, loses its leader. If let alone, perhaps two or three new leaders will start out, but by cutting back all save one, this will soon shoot up straight, and in a few years the whole tree will be denser and more symmetrical than before the injury. Indeed, some of our most skillful nurserymen now practice taking out the leaders of their Norways several times during their growth, in order to make them bushy and richly feathered to the ground. If any evergreen inclines to grow spindling and meagre, it should be cut back again and again until it comes to its senses, and grows as it ought.

It is surprising to how small a space an evergreen can be confined by pruning. We have seen the lordly pine, which naturally aspires to the hight of a hundred feet, kept down for half a life time below six feet. The training was begun when it was only a foot high, and by two annual prunings it was wrought into a globe of wavy foliage, shaped like a small hay-cock, and looked bright and silvery, and as contented as a Lilac bush near by. The Norway, the native Black Spruce, and the Balsam Fir may be trained in the same way, or cut into pyramids, or other shapes. Much more tractable still are the various Arbor Vitæs, and the Hemlock. The Junipers require less pruning than any other evergreen, but even they are improved by a little shearing when growing in clay soils.

Evergreen hedges should be pruned like other hedges when growing. But when they have attained their destined hight, the main pruning should be given in early summer, just after the first growth has been made. This treatment allows a slight after-growth in the summer, and the plants are kept in good condition. When a hedge loses much of its inner foliage, it is well, for a few years, to cut directly into the plants, taking out every alternate branch, making indeed the surface more ragged for a while, but giving the hedge finally new vigor and beauty.

ZINC TREE LABELS.—We have already published one formula for ink for writing upon zinc labels, and now give the method communicated by "Horticola" to the Gardener's Monthly. It is very simple, and worthy of trial. Sheet zinc is cut into strips of convenient size, and the pieces scoured with fine sand and water, or a mixture of one part of muriatic acid and three of water. When made bright, the pieces are put into rain water, and left there until wanted. The writing is done with a solution of one part of blue vitriol (sulphate of copper) in ten parts of water, the liquid being applied with a quill pen. When the writing is dry, the label may be fastened to the tree. For this purpose, the writer prefers strings of leather to any others. After a few days, the writing will be found to be covered by a white powder, which is to be removed by the moistened finger, and the letters will appear indelibly fixed.

Shading and Mulching.

In our climate, the gardener has not only to contend with the severity of winter, but with the intense heat of summer, and is obliged to protect his plants against the injurious effects of both extremes. Recently set plants often require shading, as do some established ones, and many seedlings. Not only does the foliage suffer from the effects of the heat, but the roots are also deprived of their proper moisture by the drying out of the surface soil to an extent that renders it necessary to protect them by some sort of covering placed upon the earth over the roots—an operation which is called *mulching*. These things are so obvious, and the methods of shading and mulching so simple, that those who have had only little experience in cultivating do not need to be told of their necessity, nor how to do them. It is not for such that this article is written, but for the hundreds who will try their hand at gardening for the first time in their lives. Indeed, we have seen in the gardens of those who make some pretentions to skill, plants languishing after removal, which a newspaper shade would have made happy, and trees and shrubs struggling to survive the month of August, which a few forkfuls of otherwise useless rubbish would have wonderfully helped. Some plants stand removal without injury, while others have to be handled with great care, and to be nursed for some time after the operation to enable them to survive it. One of the commonest ways of shading small plants in the garden, is to turn empty flower-pots over them. A large leaf, or a handful of recently cut grass, are frequently used, but these soon wilt and fall down upon the plant, and are not as efficient nor much more readily obtainable than paper. Old newspapers, torn into pieces of convenient size, arched over the plant, and the edges held in place by covering them with earth, make very efficient shades. Shingles are very handy for the purpose, and plants in rows may be sheltered by means of boards. If the plant is quite large, it may be protected by a sort of extempore umbrella of paper. Take a stick of convenient length, and a sufficiently large piece of newspaper; place the center of the paper over one end of the stick, and tie it down, an inch or two over the end of the stick, the paper capping the end of the stick in the same manner that a paper or leather cap is put over the cork of a bottle by an apothecary. This secures the paper to the stick, and leaves a broad, free margin, which may be spread out all around like an umbrella, or sun-shade, and the folds, or gathers, made by tying in this way, will give it stiffness to retain its position. The operation is a very simple one, though not so easy to describe without an illustration. The sun-shade thus prepared, is fixed where it is needed, by thrusting the lower end of the handle into the ground. Potted plants from the house, or green-house, especially the broad-leaved evergreens, like Camellias, must be placed where they will be shaded during the heat of the day. If no proper place is available, a lath work must be built to cover them. This is made of strips of slats, one or two inches wide, with spaces between them as wide as the slats. Plants placed under this are not exposed to the full heat of the sun, yet have plenty of light and air. Similar screens are useful to protect plants which grow naturally in shady woods, or other cool localities, and to cover seed beds of evergreen and other trees. Many of the trees which are hardiest when old, cannot be raised from the seed unless the young plants are sheltered, and much of the failure in raising tree seedlings comes from a neglect of this. Twigs of evergreens, or even of deciduous trees, with the leaves on, if stuck quite thickly over the seed bed, will give the young trees the needed shading. The other method of protection, mulching, is still more simple. It consists merely in covering the soil over the roots, and may be done with litter of any kind. Damaged hay, straw, bog or salt hay, chips, sawdust, tan, freshly cut grass, or any similar thing, will answer. In mulching strawberry plants, straw is generally employed, but corn stalks, laid lengthwise of the rows, will serve a very good purpose. Those who have never tried it have no idea of the great benefit of some such simple protection not only to newly set trees and other plants, but to those which suffer from drouth. One of the best pear-growers near this city, attributes much of his success to the thorough mulching of his trees. The mulch will do but little good if put in a little heap around the trunk of the tree—as people often do, and then say that the mulching is of no use. It should be spread with a liberal hand over, and even beyond, the space occupied by the roots.

Notes on Cabbage Culture.

The transplanting of cabbages for the main crop will begin towards the latter part of the present month, and continue into the next. For successful culture, it is best to select ground which has not before been used for this crop, or which has not had cabbages grown upon it for three or four years. Liberal manuring and deep plowing are required. In an article in April, it was stated that hog manure answered well for this crop. This is against the generally accepted practice, and was given as a bit of our own experience. We should have added that the manure was much diluted, by allowing the hogs to compost it with an abundance of muck, which was thrown into their pens for the purpose. We have never made use of concentrated hog manure, and there may be a reason for attributing the "club foot" to its use in this form. We have before us two communications upon cabbage culture, the writers of which relate precisely opposite results from the use of hog manure. Mr. J. W. Wilson, of Kankakee Co., Ill., informs us of complete success in raising fine cabbages, in a yard which had been used as a hog yard for several years; while a lady, in Belleville, N. J., writes that she has tried hog manure for two years, and has not been able to raise a single head, while the same lot of plants, on the same soil, dressed with stable manure, gave a good crop.—The distances at which the plants are to be set will depend upon the variety of cabbage. For the ordinary sorts, rows two feet apart, with the plants at 18 or 20 inches, in the row, will answer, while for the very large kinds, such as Stone-mason, and Marblehead Drumhead, from 2½ to 4 feet is recommended. If a large number of plants

are to be set, the labor may be divided with advantage; let one hand make the holes, another take up and drop the plants, and one or two others cover them. Before taking up the plants, give the seed bed a good watering, then mix up some soil with water, to the consistence of a batter, and draw the roots through it in a manner to completely coat them. If the plants are put in convenient sized bunches, and the roots thus covered are pressed close together, they will remain fresh for a long time. It is the custom of some to set out their plants just before or during a shower, and of others to provide some kind of shade for the newly-set plants, but we have set out the plants whenever it was found most convenient, without regard to sun or shower. By preparing the roots as above mentioned, filling the holes with water, and allowing it to soak away, and then filling in around the plant with moist soil, taken from just below the surface, there is no need of losing a plant. In removing the plants from the seed bed, all the unhealthy looking ones should be rejected, as well as those, which will sometimes be found, in which the bud or growing point, has been destroyed by insects; such will never head. The cut-worm is the great enemy to the cultivator, and to guard against it requires some trouble. A piece of paper wrapped around the stem, so as to reach just below the surface of the earth, is an effectual safe-guard. One of our correspondents uses a maple leaf for the same purpose, and finds it perfectly successful. The crop can hardly be hoed too often, and in the garden rapid developement may be much aided by the use of liquid manure. The same treatment is to be followed in setting out Cauliflower, Broccoli, etc.

Sow for a Succession.

In the monthly calendar it is often recommended to sow certain things for a succession. Some observation has shown us that the majority of farmers make but one job of planting the garden, and content themselves with the products as they come along in the course of the season. A little care and forethought would prolong the season at both ends. At this time it is too late to think about forwarding plants, but it is well to consider if more enjoyment may not be had out of the garden, by continuing the sowing of seeds much later than most people are accustomed to do. An enumeration of some of the things which may be sown late will also be advantageous to those who, for some reason, were prevented from "making garden," at the usual time, as well as to those whose crops have failed from the use of poor seed, or other cause. Bush beans may be sown at any time during the summer, or even into August, and give a supply of late string beans, and a plenty for salting. The Refugee is considered one of the best for late planting. Lima beans, sown this month, will give fair returns, unless there are early frosts. For beets, June is the best month to sow for the winter crop, but the early, or turnip varieties, may be put in as late as the middle of July. The main crop of all the cabbage tribe is to be set out this month, and if one has neglected to sow seed to provide the plants, he can readily purchase them. The early varieties of cabbage may be sown as late as the middle of June, and form heads; Brussels Sprouts, Early Cauliflower, and Broccoli, may also be sown, with a fair prospect of a crop, and Kale and Kohl Rabi will do as late as July. Carrots may be sown in the garden until the latter part of July. Sweet Corn may be had until frost comes, by planting at intervals of two weeks until July. Cucumbers may be planted until August; the pickle crop is put in the last of this month. Other materials for pickles, such as Nasturtiums, Martynias, and Melons for mangoes, may be sown at once. Okra is a subtropical plant, and does quite well if the seed is put in in June. By making a succession of sowings, peas may be had all summer. If the weather is dry, soak the peas before planting, and water the rows. Salsify is best when sown quite early, but even now it will give a good crop. Spinach and Swiss Chard may be sown, which will give greens all summer, and "Herbs" of all kinds may be put in. Salads may be had all the season, by sowing Endive now, Lettuce after the summer heat is over, and Corn Salad from July until September.

About Tastes—A Frequent Mistake.

Several years ago, a party of travelers in the Rocky Mountains, foot-sore, weary, and hungry, came upon a wild grape vine, loaded with clusters. They stopped and feasted, and all declared the grapes to be the best they had ever tasted. Late in the fall, on their return eastward, they brought home several packages of cuttings for the propagation of this new and superior grape. But when it came into bearing, all were disappointed; the fruit was tough, lacking in flavor, and every way inferior to the ordinary grapes of Eastern gardens. Whence came their disappointment? Simply from the fact that they ate the Western grapes when they were tired and hungry, and had not seen any fruit for many days, and had nothing better at hand as a standard of comparison.

Not long since, we heard of a Fifth Avenue merchant, who, after spending his boyhood and youth in New England, came to New-York and acquired great wealth. But before the prime of life, his appetite and health began to fail, and he thought his food would taste better and that he should regain his health, if only his food could be cooked as it was in the old country farm-house. So possessed with this idea was he, that he threw out of his kitchen his patent coal-cooking stoves and improved ranges, and tore down one or two partitions in order to build in his mansion an old-fashioned brick oven, to be heated with fine maple wood. This was done as commanded, but alas! did not bring back his youthful relish. Late hours, irregularity in meals, close confinement and a burden of care, had begotten dyspepsia, and "things didn't taste now as they used to, when he was a boy!"

Probably if he spent his whole life on the farm, this youthful relish would have been partially lost; but simplicity in diet, exercise in the open air, and regular hours for eating and sleeping, will do much toward preserving it.

Propagation by Layers.

Many plants which do not readily start from cuttings are propagated with ease by layering. The cutting has to throw out roots from the limited stock of nourishment contained within itself, while the layer, retaining more or less perfect connection with the parent root, is supplied with nutriment from that source. The readiness with which different plants strike root varies greatly, some will throw out roots if a branch merely comes in contact with the soil, as is the case with the Verbena, while others require considerable care to induce them to form roots. The grape vine, currant, and many others, will root if simply buried in well prepared soil, but the Rose, Weigela, Carnation, and many other shrubs and herbaceous plants need to have the buried portion wounded before it will strike root. Layers from last summer's growth are made early in spring, and that of the present season as soon as it becomes partly ripened and firm. The soil to receive the layer should be well prepared, and an opening made to receive the branch, which should be buried three or four inches deep, and pegged there by means of wooden pins. The extreme end of the shoot should be turned up out of the ground, and kept in that position by tying it to a stake, and the leaves can be removed from the buried portion. With those things which do not strike root readily, it is necessary to cut a notch just below a bud, upon the buried portion, or a tongue, by placing the knife just below a bud and cutting a slit upwards, an inch or two in length, and about half through the stem; a sliver of wood, or small pebble, is placed in the slit, to keep the wound from uniting. After the stem is cut, it must be handled with care, else there is danger of breaking it off in placing it in the ground. It is usually recommended to make the slit on the lower side of the stem, but it answers just as well to make it on the upper side, and there is less risk of breaking. In the present month, Carnations are to be layered, and choice Pansies may also be propagated in this way. In layering the Carnation, select the strongest shoots which proceed from the base of the plant, remove a few of the lower leaves, and shorten the top ones by cutting them off evenly with a knife. Then slit the stem at a joint, as above directed, and lay down the slit portion of the stem in a cavity, one or two inches deep, peg it in place, and cover with fine earth, keeping the head of the layer upright. Convenient hooked pegs may be cut from the stems of Asparagus, or the common Brake.

The Currant Worm—Save the Bushes.

For several years past the currant bushes have been nearly destroyed by numerous small worms which divest them of their foliage. As the eggs from which these worms spring are deposited on the underside of the leaves, the first indication of their ravages will be observed by many small holes eaten through, and the minute worms may be seen making the holes larger.

The writer has been accustomed to sprinkle powdered white hellebore on the bushes, which is an infallible remedy, as it destroys the worms in a few minutes, and will not injure the currant bushes in the least. White hellebore can be obtained at most drug stores, in a powdered state, at a few cents per ounce. To sprinkle it on bushes, put about two tablespoonfuls into a pepper or flour box, and sprinkle it lightly all over the outside leaves. Then turn up the bushes and scatter a small quantity in the middle of them. Let it be spread as thinly as practicable, as a quantity so small that it can not be perceived with the naked eye, will check the ravages. In the spring of 1864 our gooseberry bushes were stripped of every leaf, and all the branches were literally covered with full-sized worms. We sprinkled them lightly with white hellebore; and in less than two hours every worm fell to the ground dead. Great care must be exercised in handling the hellebore, as a small quantity will produce violent sneezing.

A Brilliant Annual.—*Convolvulus minor.*

Every one admires the climbing sorts of Convolvulus, of which the old-fashioned Morning Glory is the type, but their beauty lasts for only a few hours in the morning, and they need a support to run upon. The Convolvulus minor does not climb, but spreads upon the ground and forms a mass of brilliant bloom, and unless the sun is very scorching, the flowers remain open during the greater part of the day. The engraving gives the shape and average size of the flower, though in this last respect there is considerable variation. The colors vary from blue to violet purple which, contrasting with the white centre, gives a most lively effect. Nothing can be more showy than a bed filled with this plant, and even single specimens add much to the brilliant aspect of the flower garden. The seeds should have been sown in May, but it may be done early in June and secure a late bloom. Sow the seeds where the plants are to grow and let them stand about two feet apart as their trailing branches spread in every direction. The seeds are sold at five and ten cents a paper according to the rarity, there being several varieties differing in color and marking.

Plants with Ornamental Foliage.

Under the rather absurd name of "foliage plants" a great number of plants are cultivated for the show made by their leaves, rather than for their flowers. These are not of necessity plants with variegated leaves, but a number which have foliage of striking effect or unusual luxuriance are used. Many new species have been introduced, and there are a number of old ones which should not be neglected. One of the commonest "foliage plants," as well as one of the most striking, is the Castor Oil plant. When well grown it is stately, has a tropical aspect and an expression of health and vigor which is pleasing to see. There are about a dozen varieties sold by seedsmen, which are distinguished by difference in the color of stem and fruit, and the shape of the leaves. A single plant of any of these produces a fine effect. The old Curled Mallow, *Malva crispa*, is a favorite of ours and were it not so common and so easily raised from seed it would be much sought after. The Cannas we have before noticed—they grow readily from seed and the roots may be kept from year to year. Nor would we forget the ornamental varieties of Kale, noticed and figured in December last, the leaves of which present not only beauty of form but a pleasing variety of color. We notice in the recent French Catalogues a number of these fine leaved plants which have not yet been introduced here to any extent. Among these are *Aralin papyrifera*, *Bambusa aurea*, *Montagnea heracleifolia*, and *Weigandia Caucasana*. Of the last named we saw a specimen last season at Ellwanger & Barry's in Rochester, and were much pleased with it. Some of the grasses, such as the Pampas Grass (*Gynerium argenteum*), *Arundo Donax*, and even our common Reed-grass (*Phraymites communis*), are very ornamental. All these plants admit of a tasteful arrangement, and a group of them is always showy and pleasing, and produces a fine effect in mid-summer—a time at which we have but few flowers.

Benzine to Destroy Insect Parasites.

The European journals mention the succesful use of benzine to destroy the parasites which infest dogs, and we have no doubt that it will be found equally efficacious in removing those which trouble other animals. It has also been employed to kill the minute insect which causes the disease in the human body called *scabies*—commonly known as itch. When used upon dogs, it has been found to answer better when very much diluted than when pure. The preparation recommended is, benzine 5 parts, soap 10 parts, and water 85 parts, which is about equivalent to benzine 1 oz., soap 2 oz., and water 1 pint. It is proper to state that we have not tried this preparation. It is given on very good authority, and we cannot see that any harm can result from its use upon animals, especially as the pure benzine is used with safety in treating human patients afflicted by parasites. We propose to try the dilute preparation upon plants, when insects make their appearance, and hope others will make experiments with it, and report the results. It will be well to proceed cautiously with it at first, and try it upon some plant of no great value. It should be borne in mind that benzine is very volatile, and that the vapors of it are very inflammable, and care should be taken to guard against accidents. A very small quantity, even the vapor, will kill insects. We had, a short time ago, neglected woolens which were badly infested with moths, and as the material was past saving, we wished to destroy the crop of moths and prevent their spreading. The articles were put into a trunk, and about an ounce of benzine was sprinkled over them, and the trunk closed tightly. Upon examination the next day, not a living moth could be found, so thorough was the work.

The Sand-box Tree.—*Hura crepitans.*

A few days ago we received from Dr. White, Surgeon to the Panama R. R. Co., at Panama, a parcel containing a number of seed vessels or fruits of the Sand-box Tree. One of these is figured below of nearly the natural size, with the stem removed to better show the open-work around the place where it is inserted. The tree which bears this fruit is a native of tropical America. The texture of the wood is so weak that it is said that very large limbs will break from a sudden gust of wind. The juice of the tree possesses poisonous properties and will blister the skin. The tree is chiefly interesting for its remarkable fruit, which when its leathery covering is removed, presents the appearance shown in the figure, and looks more like an ornament carved out of some olive colored wood than it does like a natural production. The white lines which radiate so regularly from the hole left by the stem, form a pleasing contrast with the darker color of the rest; they have between them open spaces, which communicate with the interior. The whole thing is so pleasing in color, and symmetrical in form that it makes a very pretty ornament to put upon the mantle piece. We say *put* upon the mantle piece, but not to keep there, for when it gets thoroughly dry the whole

thing goes off with a bang, and scatters its fragments all over the room. This fruit consists of numerous one-seeded woody pods, joined together around a stem; the backs of these pods form the ridges, while the line upon the ridges shows where the two halves of the pods join. When the explosion takes place, these pods not only separate from one another, but their halves split apart, making twice as many pieces as there are ridges, and the scattering of these and the large seeds, together with the noise of the explosion is quite startling. The name, Sand-box, was probably given the fruit from some resemblance to the vessels formerly used for holding sand to sprinkle over writing; the people in Central America call them "Monkeys' Dinner Bells." This is one of the many expedients nature uses for scattering the seeds of plants.

The Dandelion and its Uses.

Most persons look upon the Dandelion as a weed to be exterminated rather than as a plant to be cultivated. Though not a native of this country, it has kept pace with civilization, and is to be found almost everywhere. Every meadow and grass plot is studded with its bright yellow blossoms in spring, and those who look upon it as a troublesome weed will have to content themselves with trying to crowd it out by better plants, for unless they can bribe the winds to not blow about the seeds, they have a hopeless task in attempting to exterminate it. The Dandelion is so common a plant that we are accustomed to overlook its beauty, yet our engraving shows that its leaves are not inelegant, while its flowers are quite as pretty as many we cultivate for ornament. Nor is the globular head of ripened fruits the least interesting part of the plant. Each little one-seeded fruit has a delicate little long handled parasol made up of hairs attached to it; a contrivance well adapted to aid in its distribution by the winds. The leaves vary greatly according to the situation in which the plant grows, but they are all marked with strong tooth-like notches which suggested one of the French names of the plant, *Dent de lion* (lion's tooth), from which is derived our word Dandelion. The leaves of the Dandelion are much used as greens, and when blanched they form a salad not unlike endive. The root is employed medicinally, and is one of the many articles used as substitutes for, or to mix with coffee. The plant is botanically related to both chicory and endive, and is used in a similar way. Those who value it for greens will find it much better to cultivate the plants than to depend upon those which grow spontaneously, as they are superior, and are always at hand. When the root is required, it should always be taken up in the fall, as then it contains most of the milky juice upon which its properties depend. The seed is sown in May or June, in well prepared ground, in drills 12 or 15 inches apart. Thin to 3 or 4 inches and keep the plants well cultivated through the season, and they will be fit for use in the following spring. According to Burr, if the Dandelion is cultivated for its root, the sowing is made in October, the plants thinned the following June, and kept free from weeds during summer, and the roots harvested the next October by plowing them out. The roots are prepared for market by washing, slicing and drying them.

THE HOUSEHOLD.

Liebig's Food for Children.

It is stated that the distinguished chemist, Liebig, finding that one of his grandchildren must be raised upon other food than his mother's milk, and knowing that cow's milk was not a sufficient substitute, devised a compound which, under the name of "Liebig's Soup," is now considerably employed in Germany. It is prepared as follows: "Half an ounce of wheaten flour and an equal quantity of malt flour, seven grains and a quarter of bicarbonate of potash, and one ounce of water, are to be well mixed; five ounces of cow's milk are then to be added, and the whole put on a gentle fire; when the mixture begins to thicken it is removed from the fire, stirred during five minutes, heated and stirred again till it becomes quite fluid, and finally made to boil. After the separation of the bran by a sieve, it is ready for use. By boiling it for a few minutes it loses all taste of the flour." The malt flour can be prepared by pounding or grinding malt obtained from the brewers. The bicarbonate of potash is added to give the necessary alkaline quality; it may be had at the druggists, and should be the *bi*carbonate in transparent crystals, and not the ordinary carbonate in dull white grains.

Cheese Making from a Few Cows.

It is probable that the great majority of the readers of the *Agriculturist* keep less than half a dozen good milch cows,—enough for good cheese-making. "A Farmer's Wife," of Guernsey Co., Ohio, sends us the following account of her simple method, which we commend to our readers:—"Cheese making is more profitable than butter making in the hot summer months, for those who have not a good place to set milk or cream. We seldom keep more than four cows; and from that number we make a cheese daily, weighing from 8 to 10 pounds. The morning's milk is strained into a kettle with the night's milk, and warmed. Then, after having the rennet soaked a day or week previous, pour in as much as will curdle it in 15 or 20 minutes, but not sooner, as too much makes the cheese dry, and apt to crack. A little experience here, however, is all that is necessary, as it would be impossible to tell the exact amount of rennet to the quantity of milk, owing to the great difference in the quality of rennet. Stir it together, and, when curdled, let it stand five or ten minutes. Then cut the curd in slices with a knife, about one inch thick, and cut crosswise in the same manner. Place the kettle again on the fire; put the hand in down to the bottom, stirring it gently, so as that the whole shall be heated evenly, considerably more than milk warm. This will separate the whey from the curd. Remove the kettle from the fire, and let it stand a minute. Dip, or pour off the whey on the top, and pour the curd into a large butter-bowl. Salt to suit the taste. Then cut fine with a knife, and put it in a crock, and set it in a cool place. If you have not such a place, put in salt enough for the next curd, which will preserve it until the next morning. Then make another curd in the same way, and mix well together, and put to press. I prefer this method, for two reasons. First, while making cheese, the family can be provided with milk and butter. Secondly, the cheese needs some attention after putting to press, which can better be attended to in the morning. I use the lever press in preference to the screw, because the weight is constantly pressing, whereas the screw presses strongest at first. The weight should be light at first and gradually increased; and, if desirable, the cheese may be taken out the same evening and turned, after washing the cloth (which should be of linen), and put back to press until morning, when it may be taken out and rubbed well with butter, and placed on an airy shelf and turned and rubbed daily. I prefer letting it remain until morning before turning, as the cloth will then come off readily, leaving the cheese perfectly smooth. It should then be put back to remain until next morning. Cheese made after the above directions, and pressed in this way, will seldom crack, or be injured by the cheese-fly; but if any should crack, rub them well with flour.

"Cheese, but little inferior to the best quality, may be made from the milk of two or three cows, by straining the night's milk altogether into a vessel sufficiently large to hold it, as but little cream will rise when a large quantity of milk is contained in a deep vessel. Whatever does rise should be removed, as it will run off in the whey. Add the morning's milk, and proceed as above. A very simple, but rude press may be constructed by any farmer's wife in five minutes, which will

subserve a good purpose. Place the cheese on a piece of a broad board, a little inclined, and use a fence rail for a lever, placing one end under a building, or any other structure of sufficient weight, and on the other end lean a couple of rails, or hang a pail of stones. Cheese should be pressed only hard enough to remove the whey. A little practice will make perfect. While pressing, the cheese should always be kept shaded from the sun. I think we are inexcusable if we have not our tables bountifully supplied with this most wholesome, palatable, and nutritious article of food."

Pure Butter.

The fresh sweet pastures of June, furnishing that abundance of succulent feed which new milch cows need to give rich milk in abundance, make this month pre-eminently the butter month. We present herewith the views of a good butter maker expressed in a communication by "H. A. H.," which has lain for some time on our table: "I am very particular about thoroughly scalding and sunning my pans in hot weather; do not fill them more than half full, and skim after the milk thickens sufficiently so that the cream will come off smooth without taking any milk with it, which, I think, is apt to make curdles in the butter, and that injures the looks of it. Churning should be done every day, if sufficient cream be obtained. If not, the cream in the pot should be thoroughly stirred whenever any is added, and I add a little salt, which certainly is not a bad idea. I design, when I churn, to have the cream the right temperature, neither too warm nor too cold, so as to avoid putting in any warm or cold water, and as soon as it is gathered I take it out and wash it in cold water until it is thoroughly freed from buttermilk; salt it to my taste, and set it in a cool place until the next morning, when I work it over again until it presents a firm and uniform appearance. Last summer I worked my butter three times before packing. At the last working I add a small quantity more of salt. After packing it smoothly I sprinkle a tablespoonful of loaf sugar and a little salt over the top between every layer, and apply on the top of that a cloth pressed down closely to keep the air from it during the time that must intervene before the packing of the next layer. After the jar or firkin is well filled, I put the cloth on the top and apply another thicker one, and fill up with salt packed tightly, and even with the top of the jar; then lay on another cloth to fit the top. I also put another one over the jar and have it come over the edge and paste it tight to the jar, then put on a board and weight. Or another way: Instead of putting in salt I take melted butter and turn in on the thin cloth even full, and lastly, apply salt sprinkled over the top before putting on the last cloth and weight. Then again, I have had butter keep well after packing thoroughly as I have stated, to fill up the top of the jar with strong brine, which should stand two inches deep on the top without being filled up with butter, and it is necessary to put a little saltpetre in the brine. Any one, whether he has a very good place to keep butter or not, if he attend to the strict observance of these rules, can have good butter and keep it for months, and that through the hottest weather."

Fault-finding with Children.

Mrs. H. B. Stowe, in the Atlantic Monthly, has done a good service for both parents and children in exposing this common mistake. The following extract conveys the pith of her views on the subject:

"Children are more hurt by indiscriminate, thoughtless fault-finding than by any other one thing. Often a child has all the sensitiveness and all the susceptibility of a grown person, added to the faults of childhood. Nothing about him is right as yet; he is immature and faulty at all points, and everybody feels at perfect liberty to criticise him to right and left, above and below, till he takes refuge in callous hardiness or irritable moroseness.

"A bright, noisy boy rushes in from school, eager to tell his mother something he has on his heart, and Number One cries out—'Oh, you've left the door open! I do wish you wouldn't always leave the door open! And do look at the mud on your shoes! How many times must I tell you to wipe your feet?'—'Now there you've thrown your cap on the sofa again. When will you learn to hang it up?'—'Don't put your slate there; that isn't the place for it.'—'How dirty your hands are! what have you been doing?'—'Don't sit in that chair; you break the springs bouncing.'—'Mercy! how your hair looks! Do go up-stairs and comb it.'—'There, if you haven't torn the braid all off your coat! Dear me, what a boy!'—'Don't speak so loud; your voice goes through my head.'—'I want to know, Jim, if it was you that broke up that barrel that I have been saving for brown flour.'—'I believe it was you, Jim, that hacked the side of my razor.'—'Jim's been writing at my desk, and blotted three sheets of the best paper.'—Now the question is, if any of the grown people of the family had to run the gauntlet of a string of criticisms on themselves equally true as those that salute unlucky Jim, would they be any better natured about it than he is? No; but they are grown up people; they have rights that others are bound to respect. Everybody can not tell them exactly what he thinks about everything they do. If every one did, would there not be terrible reactions?"

Something about Perfumes.

People will persist in using perfumes, and if they would only use the delicate ones of flowers it would not be so objectionable, but when it comes to musk, which suggests skunk, and bergamot, that savors of barber shops, we think perfumes had better be dispensed with. It is the common belief that all perfumes are distilled from the plants and flowers the names of which they bear, but this is not the case. Though many are obtained from woods, barks and seeds by the operation of distillation, the oils of orange, lemon, and bergamot are obtained by expressing the rinds of those fruits. In separating the delicate odors of flowers a quite different process is generally resorted to, founded upon the fact that the fragrance of the flower continues to be exhaled as long as it remains alive, and upon the property possessed by pure fats of absorbing this odorous exhalation. This process is largely carried on in the South of France, and is called "*Enfleurage.*" Square wooden trays are formed by setting panes of glass in wooden frames which are about two inches high, so that when two of these are placed one over the other, there will be a space of four inches between the two glasses. The fresh butter, lard, suet, or whatever grease is used, and which must be as pure as possible, is spread over the glass bottom of one of these trays, the flowers placed in it, and a similarly prepared tray covered over it. The flowers remain here for a day or two, when they are removed and replaced by fresh ones. The same grease remains in the tray as long as the season of blossoming of the particular plant lasts, it being worked over with a knife, so as to present a fresh surface every time fresh flowers are put in. In this way large quantities of grease are prepared strongly flavored with the perfume of Orange flowers, Jasmine, Tuberose, Violets, etc., which is used for perfuming pomades, or to impart its fragrance to alcohol, and thus form the various liquid scents or essences. The perfumed fat being infused in alcohol for several weeks, imparts all its odor to that liquid, while none of the fat is dissolved by it. Many of the perfumes sold under fanciful names are combinations made by mixing the various extracts. Some of these are made to imitate the perfumes of flowers, such as Sweet Pea, while others like "Jockey Club," "West End," etc., are agreeable compounds not made to imitate any natural odor. Some of the names are exceedingly imaginative; "Night-blooming Cereus" for instance, is a mere fancy name to a compound perfume, which bears no resemblance in odor to the flower after which it is called. Indeed there are probably not flowers enough of the Cereus produced in the country in a year to make a dozen bottles of the perfume which bears this name. Those who have an abundance of fragrant flowers can make the experiment of extracting their odors by spreading the grease upon dinner plates, filling one with flowers and inverting another one over it.

About Lightning Rods.

From the letters we receive asking information about lightning rods it is evident that there is sufficient interest felt in the matter to warrant us in devoting considerable space to it. No one who has a house or barn can afford to neglect the protection which a properly constructed lightning rod will give. There are numerous kinds of patent lightning conductors, each claimed by the inventor to be superior to all others. We cannot decide upon the merits of these rival inventions, but can do our readers much better service by pointing out the essentials of a good lightning rod. The following was prepared some years ago by Prof. Henry, the distinguished physicist, who has given especial study to electricity, and it appears to be perfectly plain and to cover the whole ground.

"1st. The rod should consist of round iron, of not less than three fourths of an inch in diameter. A larger size is preferable to a smaller one.

"2d. It should be, through its whole length, in perfect metallic continuity; as many pieces should be joined together by welding, as practicable, and when other joinings are unavoidable, they should be made by screwing the parts firmly together by a coupling ferule, care being taken to make the upper connection of the latter with the rod water-tight, by cement, solder, or paint.

"3d. To secure it from rust, the rod should be covered with a coating of black paint.

"4th. It should be terminated above, with a single point, the cone of which should not be too acute, and to preserve it from the weather as well as to prevent melting, it should be encased with platinum, formed by soldering a plate of this metal, not less than a twentieth of an inch in thickness, into the form of a hollow cone.

"5th. The shorter and more direct the rod is in its course to the earth, the better. Acute angles made by bending the rod and projecting points from it along its course should be avoided.

"6th. It should be fastened to the house by iron eyes, and may be insulated by cylinders of glass. We do not think the latter, however, of much importance, since they soon become wet by water, and in case of a heavy discharge are burst asunder.

"7th. The rod should be connected with the earth in the most perfect manner possible, and in cities nothing is better for this purpose than to unite it in good metallic contact with the gas mains or large water pipes in the streets; and such a connection is absolutely necessary if the gas or water pipes are in use within the house. This connection can be made by soldering to the end of the rod a strip of copper, which, after being wrapped several times around the pipe, is permanently attached to it. Where a connection with the ground cannot be formed in this way, the rod should terminate, if possible, in a well always containing water, and where this arrangement is not practicable, it should terminate in a plate of iron or some other metal buried in the moist ground. It should, before it descends to the earth, be bent so as to pass off nearly perpendicular to the side of the house, and be buried in a trench surrounded with powdered charcoal.

"8th. The rod should be placed, in preference, on the west side of the house, in this latitude, and especially on the chimney from which a current of heated air ascends during the summer season.

"9th. In case of a small house, a single rod may suffice, provided its point be sufficiently high above the roof, the rule being observed, that its elevation should be at least half of the distance to which its protection is expected to extend. It is safer, however, particularly in modern houses in which a

large amount of iron enters into the construction, to make the distance between two rods less than this rule would indicate, rather than more. Indeed we see no objection to an indefinite multiplication of rods to a house, provided they are all properly connected with the ground and with each other. A building entirely inclosed, as it were, in a case of iron rods so connected with the earth, would be safe from the direct action of the lightning.

10th. When a house is covered by a metallic roof, the latter should be united, in good metallic connection, with the lightning rods; and in this case the perpendicular pipes conveying the water from the gutters at the eaves may be made to act the part of rods by soldering strips of copper to the metal roof and pipes above, connecting them with the earth by plates of metal united by similar strips of copper to their lower ends, or better with the gas or water-pipes of the city. In this case, however, the chimneys would be unprotected, and copper lightning rods soldered to the roof, and rising a few feet above the chimneys, would suffice to receive the discharge. We say soldered to the roof, because if the contact was not very perfect, a greater intensity of action would take place at this point, and the metal might be burnt through by the discharge, particularly if it were thin.

"11th. As a general rule, large masses of metal within the building, particularly those which have a perpendicular elevation, ought to be connected with the rod."

Extermination of Red Ants.

"N. H.," of Albany, N. Y., inquires for a remedy for expelling red ants when they have gained possession of a dwelling. If they can find convenient refuge in the walls of a house, it will require a long time to exterminate them. If the house be new, and the door and window casing and base boards fit closely, fill with putty all the holes and cracks where they come in. Then, keep all kinds of food in close vessels, so that they will have difficulty to find anything to eat. Procure two pieces of thin boards, say two feet long, eight inches wide, and fasten two edges together with hinges, so that they will close like the covers of a book. Spread a little molasses on the under board, and as often as a few ants are seen on it, press the upper board down and crush them. In a few days they can all be destroyed. Another way is to put some molasses into a milk pan, and place a piece of board against the side of it, so that they can ascend to the top of the pan. They are sure to tumble into the molasses; and can not get out alone. Perhaps the best way is one we have previously published in the *Agriculturist*. Procure a large sponge, sprinkle a little sugar through it, and place it near the haunts of ants. When a quantity of them have collected in the interstices they can be killed in hot water, the sponge dried, baited and set again. In this way whole armies of the ants can be readily destroyed.

Tanning Fur Skins.

Mr. Byron Vaughn, Dupage Co., Ill., sends the following method of preparing skins with the fur on to the *American Agriculturist:* The skins cleaned of flesh are put in a liquid prepared thus: Upon 1 lb. of hard wood ashes, pour 4 gallons hot soft water, let stand for a few hours and strain out the liquor, then add 3 pounds of common salt, one fourth pound of alum, and one pound of sulphuric acid (oil of vitriol). The mixture is to be made in a wooden tub or similar vessel, and care should be exercised in handling the acid, that none come in contact with the person or clothing. The skins are placed in the liquid and allowed to remain there from one to two hours, when they are rinsed and hung out to dry. Mr. V. recommends the process as cheap and satisfactory. He does not state if the skins need any oiling or other after-treatment.

Furniture Varnish.—A correspondent says, when black walnut or mahogany-colored furniture becomes discolored or damaged, any one may, at a very small cost, "shine it up," like new. Provide a few cents worth of burnt amber and Indian red. For mahogany color, mix Indian red with copal vanish till the right color is secured; thin with benzine, and add a little boiled linseed oil if it dries faster than desirable. For black walnut color, mix both pigments in such proportion as are necessary.

Mrs. F.'s Way of Preserving Strawberries.

Mrs. F.'s strawberry preserves are the best in the world. So F. thinks, and we don't dispute him. She has all the strawberries she needs, and many more go to waste for want of hands to pick them. So large, firm, handsome berries, such as Wilson's, or Triomphe de Gands, are selected, cleaned without bruising, and with these her glass jars are filled. Then an abundance of the highest flavored berries, as, for instance, Brooklyn Scarlet, Burr's New Pine, Boston Pine, etc., are taken, picked over with great care, and washed. They are mixed with sugar, in judicious quantity, say half a pound to a pound for each pound of fruit; then they are put on the fire and cooked as is usual for preserving strawberries. Then they are poured out upon a cloth in a colander, and all the juice drained and squeezed out. While yet boiling hot, it is poured into the jars of fruit, previously placed in hot water. The jars are then sealed at once. The amount of sugar can be varied to suit the taste. The fruit will keep with more of its natural flavor, and with less danger of fermentation without any sugar. It can be sweetened as used on the table.

BOYS & GIRLS' COLUMNS.

How to Keep Good Natured.

Uncle William writes to the *American Agriculturist:* "How that wagon wheel creaks. It seems to be grumbling and moaning with pain, just as I felt like doing when I had the rheumatism. Every boy knows that it needs grease or oil, to make it run easy. If it do not have this, it will tire everybody with the disagreeable sound, and soon be worn out. It is just like some people I have met, who needed oiling with good nature. They were honest, industrious, well meaning, and naturally affectionate, but oh! how peevish. There was my neighbor Squire Savage. How I used, when a boy, to dread to pass his place. 'What are you staring at, hey?' he would call out if I turned to look toward his house. 'Stop your noisy yelp,' he shouted one day as I was singing on my way to school. Suppose I did annoy him a little by my childish ways, *he* would have felt pleasanter, and I certainly should, had he given me a kind word which would have cost him very little. There was Peter Brace, one of my school fellows, 'Peter Pickles' the boys nicknamed him. He was always snarling at something or somebody. If he granted a favor, he would do it with such a snap that you did not like to ask him a second time. But I need not speak of *my* cross acquaintances, most of you have seen such persons, and know that they are not favorites. But how can a person keep good natured? 1st, by making up his mind that he will act pleasantly whether he feels so or not. It may be hard work to do this at times, but it can be made a habit, and appearing pleasant will induce pleasant feelings. 2d, Good health has much to do with good nature. Preserve this by good habits and temperance in all things. 3d, Keep a quiet conscience by trying to do right.—Be careful not to mistake pliancy for good nature. A pliant man agrees with everbody, has little will of his own, is ready to follow every body's suggestions; he does not know how to say 'No.' A good natured man may be very decided in his opinions and yet offend none justly by his expression of them; he can make 'No' pleasanter by his way of saying it, than the 'Yes' of a surly person. Try the oil of good nature for a month and see how easily it will make the wheels of life run."

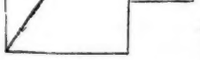
February 14th—Woman's Day.

In England and in many places in this country, February 14th, called Valentine's day, is celebrated by sending anonymous letters, called valentines. The old Dutch settlers of New York had a different and curious custom. Previous to that day every school girl provided herself with a piece of cord of convenient size for a whip. With this she was privileged to attack any boy she might meet on the 14th, (called by them "Vrowen Dagh" or Woman's Day,) and give him a sound lashing. It was not fair to have any knots tied in the cord, and of course no boy was permitted to strike back, or offer any resistance; he could only use his legs and run away as fast as possible. As the whole matter was fairly understood, it made great sport. When the boys applied for a similar privilege on the following day, they were told that it would defeat the purpose of the custom, which was intended to teach them a lesson of manliness, never to raise their hands to strike a woman. Probably it was also thought that as the boys were wont to have things their own way most of the time, it was only fair to let the girls have full rule at least one day in the year. The custom may also have made the boys quite careful in their treatment of the opposite sex, at least for some time previous to the 14th, fearful of the threat "I'll pay you off on Woman's Day."

A LITTLE GIRL was told "to spell ferment," and give its meaning, with a sentence in which it was used. The following was literally her answer: "F-e-r-m-e-n-t, a verb, signifying to work. I love to ferment in the garden"

Answers to Problems and Puzzles.

The answer to No. 121, *Mathematical Problem*, in February No., page 55, was accidentally omitted. 1278 is the correct number. The following are answers to the puzzles, etc., in the May number, page 159: No. 147. *Problem.*—The dotted lines show where the figure is to be cut,



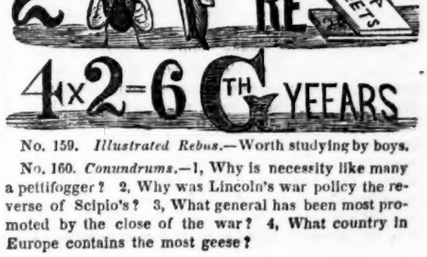
to make the required pieces; a little study will show how to arrange them to form a square....No. 148. *Curious Sentence.*—Who saw a saw saw a saw? I saw a saw saw a saw, but never saw a saw saw a saw as I saw that saw saw a saw....No. 149.—*Illustrated Rebus.*—*Flies in when ewe can butt face it if ewe must;* or, Fly sin when you can, but face it if you must....No. 150.—1, Whole, hole: 2, spear, pear; 3, scent, cent; 4, acorn, corn....No. 151. *Anagrams.*—1, Idolatary; 2, Regulations; 3, Enigmatically; 4, Editorial....No. 152. *French Riddle.*—Translation. I am of all things in the world, the most holy; remove my heart and I am the most bitter. *Answer.*—"Bible," remove the middle b, and bile remains....No. 153. *Illustrated Rebus.*—April 3d will long be regarded a great day in the history of the United States, and of the world....No. 154. *Mathematical Problem.*—5.002 inches....No. 155. *Mathematical Problem.*—5-37ths. The following sent correct answers up to May 10th. Minne and Alice Mulligan, 137, 141, 143; B. F. Scriven, 146; E. A. Long, 141, 146; N. Safford, 146; T. S. McD., 137; S. C. M., 137, 141; "W. F. B.," 139, 141, D. W. B. Kuntz, 137; E. Provost, 153; I. W. Beckwith, 124, 125, 126, 127, 128, 133, 134; Eddie Sheldon, 150, 153; Lucy R. Weeks, 149, 153; Robt. G. Weeks, 149, 150, 153; Fidelia R. Lord. 150, 153.

New Puzzles to be Answered.

No. 156. *Curious Sentence.*—Write a correct sentence with the word "that" used seven times in succession.

No. 157. *Illustrated Rebus.*—A timely warning to all.

No. 158. *Curious Latin Sentences.*—1, Quis crudus pro lectum, album et spiravit. 2, Mens tuus ego et labor via. 3, Bonæ mali sunt desiderabiles. What is the correct translation?



No. 159. *Illustrated Rebus.*—Worth studying by boys.

No. 160. *Conundrums.*—1, Why is necessity like many a pettifogger? 2, Why was Lincoln's war policy the reverse of Scipio's? 3, What general has been most promoted by the close of the war? 4, What country in Europe contains the most geese?

LEFT ALONE AT HOME.—*Engraved for the American Agriculturist.*

Whose portraits are these? "Not mine," says Minnie who has been sitting by her mother's side sewing patch-work until father brought the *Agriculturist* from the Post Office, which she is now looking over. "Not mine," says Fanny, who has just come in from a romp with her dog "Dandy." "No indeed, I wouldn't do such a thing as to go to mamma's closet and take the preserves." One little girl looking at this picture says nothing, but blushes while she thinks about the lumps of sugar she has sometimes slily taken. And there is a boy who remembers how he loved peaches more than honesty one day last summer, and helped himself from his neighbor's tree. The sugar and the peaches tasted good then, but the thoughts of them now are bitter, and will be for a long time unless the sin is confessed and forgiven. When a small splinter is thrust into the flesh the wound will remain painful until the splinter is taken out, then it will quickly heal. Just so with concealed guilt; confession will best remove it and bring peace of mind. The children in the picture will very soon be found out; the daubs and stains on their faces and clothes will tell the story, and if they should fail to, the little one peeping from behind the closet door will hardly keep the secret. Then, when deserved punishment comes, the recollection of the sweets will do little to soften the pain. In small or great actions *wrong-doing never pays.*

"A Good Boy Wanted."

A gentleman in this city lately inserted an advertisement with the above heading in one of the daily papers. Upon entering his office the next morning, there stood a crowd of forty or fifty boys waiting to see him. All were strangers, and of course it was rather difficult to select the best one of the company. But there were a few signs by which it could be decided at once that many of these lads were not wanted, from which our young friends may take a hint. Several of the boys had uncombed hair and unwashed hands and faces. If they could not keep their own persons neat they would not be likely to do their work nicely; so these were passed over without further notice. One boy looked bright and smart, but he kept crowding his way to the front of all others, and thrusting himself into notice. It was readily seen that he was too "smart," he would probably prove pert and saucy. Then came a boy with a book peeping out of his breast pocket—a cheap trashy novel—*he* was not wanted; his mind would be following the hero of the wonderful story, through impossible adventures, while his work suffered. One boy fell to quarreling with his neighbor; another had to be reprimanded for meddling with articles in the office; a third chewed tobacco; neither of these was wanted. From the few remaining after dismissing the above classes, the boy was selected who could bring the best testimonials of honesty, intelligence and industry; so you may see a good name is worth much, and a good character will be sure sooner or later to bring a good reputation and its rewards.

About Sleep.

Every act of the body or mind wears the organs or parts used. The arms of the mechanic, the legs of the traveler, the brain of the student would soon be destroyed, if the worn-out particles were not replaced by new ones derived from the food. During waking hours, waste or loss in the body goes on faster than it can be repaired; but after twelve to sixteen hours of activity, the faculties begin to work heavily, and at last refuse to obey the will. The eyes close in spite of the strongest efforts to keep them open; the ears will not carry sounds to the brain, the limbs refuse to move, and the person sleeps. It is possible by great mental effort, or excitement, or by taking stimulants, to prevent sleep for hours or even days, but finally it can not be resisted. Soldiers have slept on the ground with a battle fiercely raging around them. It is related that during Napoleon's retreat from Moscow, wearied soldiers would often fall asleep in the ranks while marching, and in some instances continue to walk unconsciously for a long distance. During the bombardment of Fort St. Philip, on the Mississippi River, guns of very heavy caliber were used, which made a tremendous and deafening report at each discharge; but the artillerymen who were working them, when exhausted and replaced by others, lay down on the decks of the boats containing the guns and slept soundly through all the firing. During sleep only the necessary functions of the body, as breathing, circulation of the blood, etc., are carried on, and as these do not consume all the power supplied to the body by the food, a stock is laid up for use upon waking. Children require more sleep than older persons, because much of their food is appropriated in adding to their growth, and also because of their greater activity. Young persons need from ten to twelve hours sleep in the twenty-four; adults from six to eight hours, depending upon the constitution and habits of the individual. Although too much sleep is hurtful, it is less so than too little; in the latter case there is rapid exhaustion of the vital power, and a person grows old fast.

The first Locomotive, 'Puffing Billy.'

In the year 1812, in England, there was great scarcity of food for man and beast. William Hedley, the superintendent of an extensive coal mine at Wylam, Newcastle-upon-Tyne, was greatly perplexed how to provide fodder for the horses employed to draw the coal over a railroad from the mine to the dock where it was shipped. For a long time he feared the colliery must be closed, and himself thrown out of employment. One night as he lay thinking of his dark prospects, there suddenly occurred to him a plan by which the wheels of a locomotive could be made to move forward, instead of slipping upon the track. This difficulty had long puzzled the best engineers, and caused the failure of locomotives previously built by them. The next morning he commenced a model, which with the help of a clockmaker was completed within twenty four hours; and at length he had the happiness of inventing and building the first locomotive engine moving by the friction of the wheels upon the road. It was extremely slow in all its movements, but it served his purpose, and above all consumed neither hay nor oats, but was fed with the coal abounding at the mine. The original Wylam locomotive remained at work forty nine years, and is now a valued relic in the Patent Museum, South Kensington, England. At Wylam, this engine was called "Puffing Billy," from the great noise it made. This puffing and snorting came near stopping the career of the engine, and involving its inventor in a lawsuit, as the people along the road declared it a nuisance, and endeavored to stop it. But "Puffing Billy" was too good a friend to the Newcastle folks, to be put down, and the suit was dropped.

Indian Tradition—Rocks in Connecticut.

It is said that ages ago an evil spirit set up a claim to the territory including the present State of Connecticut. The Indians referred the matter to their squaws, who proposed that they should quit the disputed ground provided the spirit would pay them for the *improvements* they had made. To this the spirit returned no answer, and war was declared. At first the spirit, though single handed, being very powerful, gained the advantage; but the Indians united, and posted their warriors so that they might be constantly re-enforced, and pressed him so sorely night and day, that he was obliged to retreat. He arrived one evening in the neighborhood of Throg's Neck, (now in Westchester Co., N. Y.,) on L. I. Sound, where a line of rocks project out from the Island. It happened to be low tide, and the tops of the rocks appearing above the water, the spirit stepped from one to the other until he reached the Island. These rocks are to this day called the "Stepping Stones." He then went to Coram, in the middle of the Island. Determined to have revenge, he then collected all the loose rocks he could find on the Island in heaps at Cold Spring, and threw them over into different parts of Connecticut, where they yet remain. The Indians who last inhabited Long Island, not only undertook to show the spot where the spirit stood, but insisted that they could yet discern the prints of his feet.

Wall Street and Fly Market.

While New York City was in possession of the early Dutch settlers, they built a line of palisades extending from near the corner of Pine and Water-street on the East River side, over to the Hudson or North River. A fortification known as the "Half Moon," built of stone, was erected at the beginning on the East River. Adjacent to this was the "Waal" where the ships rode at anchor in the river, and the street adjoining, where goods were landed or shipped, was named "Waal-street," which very soon became Wall-street, now famous the world over as the great money center of America.

Many residents in New York yet remember the "Fly" market standing at the foot of Maiden Lane. Some suppose the name to be derived from the abundance of flies drawn there by the meat and fish; indeed it is related that when a New Yorker and a Philadelphian were each claiming that their markets were best supplied, the latter quoted this name, "Fly" market, in proof that meat could not be kept well in New York, because of these insects. The name was originally "Vly" market, the word being an abbreviation of Valey (valley), and in use with the Dutch to denote a marsh—formerly extended from the East River up as far as Pearl-street.

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Two cents	"	"	"	**$100** "
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20	"	"	"	**$1000** "
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Fourteenth Annual Report

OF THE

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NEW YORK,

JANUARY 1, 1865.

Net Assets, January 1, 1864	$1,478,968 59
Receipts during the year	973,534 02
	$2,452,502 61
Disbursements	461,277 38
	$1,991,225 23
Assets	$1,991,225 23

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BASHFULNESS.—HOW TO OVERCOME IT. See PHRENOLOGICAL JOURNAL. Jan. No. 20 cts FOWLER & WELLS, 389 Broadway, New York.

GOOD STRAWBERRY PREMIUM.

We have none of the Agriculturist Strawberry Plants for sale, and shall not sell a plant this year at least, in accordance with our agreement with Mr. Knox, who purchased all our surplus stock last autumn. We have, however, the original stock plants, which will produce a fine lot of new plants by the last of August. We reserved the right to offer a part of these as premiums to those who procure subscribers for the *Agriculturist*. As we have found a safe method of sending them by mail in wooden boxes (see below), we can send these plants about the first of September, with little danger of loss, and at that time they can be planted and get well established this year. We have heard of only three or four cases of loss in all the large number sent out last year prior to September 13th, and our new method of packing will add greatly to the security. We, therefore, offer:

I.—To any one who will *now*, or any time *before* to August 1st, send us *four* subscribers, at the regular rates ($5), we will forward, post-paid, **Ten** of the Agriculturist Strawberry Plants, of first class, about Sept. 1.

II.—To any one sending *ten* subscribers now, or *before* August 1st, we will send **Twenty** Plants as above.

III.—And so on, for a larger number of names we will send at the rate of **20** Plants for *ten* subscribers.

This will be a fine opportunity to secure a stock of plants, and the premium will be a valuable one, as there will not be plants enough for sale in the country to reduce the price much below the rates so far, for first class plants.

The reason for making the offer larger than previously given, will readily be seen, viz., by having more time for multiplying plants it will be easier for us now to provide *ten* next autumn than it was to send *one* plant last year. Those who got one plant last fall, or the past spring, will, with fair cultivation, have several dozens of their own raising by next autumn, so that they will really have a larger stock than those who get ten plants then.

About the "Agriculturist Strawberry" Plants sent out This Year—Boxes for Mailing Plants—Mr. Knox.

I. The Publisher expended nearly a Thousand Dollars, last autumn, in trying to get up boxes, but owing to his absence by sickness, the effort failed then. But from the many favorable reports received from all parts of the country, we conclude that this year's plan of sending plants in wooden boxes is a complete success—and we confidently commend them to all dealers as worthy of adoption, not only for sending strawberry plants, but for all others small enough to put into any kind of mailable box, and also for cuttings, and even for seeds. We see no objection to using boxes which measure a foot or more long, and 3 to 5 inches in diameter, as the law allows any weight up to 4 pounds, at eight cents per pound. By having them made where wood is abundant, they can be got up cheaply, and different sizes of empty boxes might be "nested" to save transportation. A turned box, 6 to 7 inches long, and 3 to 9 inches inside diameter, will suffice for a dozen or more strawberry plants of the ordinary size. We first bed the plants in damp moss, then wrap the whole in oil-cloth, and slip the parcel into the box, put on the cover, and paste on the wrapper, previously marked, addressed and stamped. When sending off a large number we let the P. M. put on the post-mark while the wrappers are lying out flat, which is more convenient than to post-mark them when wrapped on round boxes. Enough are thus prepared every morning for the day's work.—**II.** The warm season came on much earlier than usual, so that the plants were in full leaves and in bloom, 2 to 3 weeks sooner than we calculated upon. This rendered more doubtful the perfect safety and freshness of those sent out after May 1st, and we were obliged to suspend sending after May 17th, as the fruit was all set, and the weather very warm. Applications received after that will be reserved to Sept. 1st, when a double number of new plants will be forwarded to such *delayed* applicants. We are sure they will go very safely up to the 10th of September, but do not deem it expedient to send plants by mail at a later date.—**III.** A word for Mr. Knox, of Pittsburgh. He bought *all* our plants not reserved for subscribers. They were forwarded to him in boxes and barrels, by express; but unfortunately, at just the best time for transporting them, the terrible freshets in Pennsylvania interrupted all transportation for a considerable time. The boxes of plants sent to him first were from 8 to 12 days on the way, while they were packed only for a day or two. Before rapid transportation was restored, the weather had become unusually warm for the season. He, however, did the best he possibly could, selecting the best and freshest only, as he had an unexpectedly large stock. He will undoubtedly make good any losses, as we rank him among the most honest and reliable dealers in the country.

Commercial Notes—Prices Current.

NEW-YORK, May 18.

The condensed and convenient tables below, show the transactions in the N. Y. Produce markets during a month past. They are carefully prepared specially for the *American Agriculturist*, from official and other reliable sources, including the daily notes of our own reporter.

1. TRANSACTIONS AT THE NEW-YORK MARKETS.

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
24 days *this* m'th,	339,000	22,700	153,000	2,600	67,000	197,000
24 days *last* m'th,	197,000	9,200	173,000	3,100	94,000	286,000

SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*
24 days *this* month,	249,000	655,000	272,000	8,500	61,000
24 days *last* month,	194,000	528,000	318,000	——	46,000

2. *Comparison with same period at this time last year.*

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
24 days 1865.....	339,000	22,700	153,000	2,600	67,000	197,000
25 days 1864.....	281,000	219,000	143,000	31,100	174,000	376,000

SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*
24 days 1865.....	249,000	655,000	272,000	8,500	61,000
25 days 1864.....	373,000	514,000	938,000	9,200	141,000

3. *Exports from New-York, January 1 to May 18:*

	Flour, bbls.	Wheat, bus.	Corn, bus.	Rye, bus.	Oats, bus.
1865.....	484,598	219,946	163,502	141	26,778
1864.....	751,473	4,269,497	116,618	405	15,812
1863.....	830,498	4,103,939	2,597,612	216,978	110,759

CURRENT WHOLESALE PRICES.

	April 20.		May 18.	
FLOUR—Super to Extra State	$7 60	@ 8 10	$5 90	@ 6 80
Super to Extra Southern	9 00	@11 50	7 15	@12 00
Extra Western	7 70	@11 50	6 40	@11 50
Extra Genesee	8 15	@10 00	6 80	@ 9 00
Superfine Western	7 00	@ 7 50	5 90	@ 6 20
RYE FLOUR	5 50	@ 6 50	5 00	@ 6 00
CORN MEAL	5 70	@ 6 50	5 10	@ 6 00
WHEAT—All kinds of White	1 85	@ 2 30	1 75	@ 2 20
All kinds of Red	1 55	@ 1 85	1 25	@ 1 75
CORN—Yellow	1 27	@ 1 36	90	@ 1 08
Mixed	1 15	@ 1 30	90	@ 1 00
OATS—Western	90	@ 91	50	@ 52
State	88	@ 90	50	@ 51
RYE	1 00	@ 1 10	85	@ 90
BARLEY	1 10	@ 1 35	1 15	@ 1 45
COTTON—Middlings, ₱ lb	32	@ 37	48	@ 50
HOPS—Crop of 1864, ₱ lb	10	@ 40	10	@ 35
FEATHERS—Live Geese, ₱ lb	60	@ 62½	59	@ 63
SEED—Clover, ₱ lb	29	@ 30	22	@ 23
Timothy, ₱ bushel	5 00	@ 6 00	4 50	@ 5 50
Flax, ₱ bushel	2 25	@ 2 50	2 10	@ 2 25
SUGAR—Brown, ₱ lb	9¼	@ 15½	9¼	@ 15½
MOLASSES, New-Orleans, ₱ gl	80	@ 1 10	75	@ 1 05
COFFEE—Rio, ₱ lb	18½	@ 21	19¼	@ 23
TOBACCO, Kentucky, &c., ₱ lb	9	@ 40	6	@ 30
Seed Leaf, ₱ lb	7½	@ 50	7	@ 30
WOOL—Domestic Fleece, ₱ lb	70	@ 85	65	@ 80
Domestic, pulled, ₱ lb	60	@ 85	62½	@ 77½
California, unwashed	18	@ 55	15	@ 45
TALLOW, ₱ lb	11	@ 11¾	10	@ 10½
OIL CAKE—₱ ton	50 00	@55 00	48 00	@50 00
PORK—Mess, ₱ barrel	24 50	@27 50	21 50	@23 50
Prime, ₱ barrel	24 50	@25 00	21 50	@— —
BEEF—Plain mess	12 00	@16 00	10 00	@14 00
LARD, in barrels, lb lb	15¾	@ 18	15¼	@ 18
BUTTER—Western, ₱ lb	15	@ 25	14	@ 23
State, ₱ lb	22	@ 35	21	@ 35
CHEESE	14	@ 32	12	@ 20
BEANS—₱ bushel	2 00	@ 2 50	1 25	@ 2 25
PEAS—Canada, ₱ bushel	2 00	@ 2 10	1 90	@ 2 10
EGGS—Fresh, ₱ dozen	26	@ 27	24	@ 27
POULTRY—Fowls, ₱ lb	22	@ 25	20	@ 24
Turkeys, ₱ lb	24	@ 25	20	@ 27
POTATOES—Mercers, ₱ bbl	3 75	@ 4 20	2 50	@ 3 50
Peach Blows, ₱ barrel	3 75	@ 4 00	2 00	@ 2 25
APPLES—₱ barrel	6 50	@ 7 00	7 00	@10 00

Gold has receded from 147 to 126½, and has since ranged in the vicinity of 130, or below. Prices of most kinds of domestic produce have declined materially, in sympathy with the gold, and the tendency is steadily downward, especially as holders are eager to realize, while the demand from the regular trade is quite moderate, and speculative buyers less active than usual at this season of the year. The resumption of canal and river navigation promises early and considerable additions to the available supplies in market; and purchasers expect that these will seriously depress prices, in view of the decline in gold, the restricted home inquiry, and the unusually limited export movements particularly in breadstuffs, which have been the least freely dealt in during the past month. The executive orders for the reduction of the national forces tend to lessen very decidedly the government consumption of breadstuffs, provisions, and forage for horses; and the partial loss of such excellent customers as the U. S. Quartermasters and Commissaries of subsistence will be seriously felt by the produce trade for some time to come. Toward the close, the markets are all depressed, and the tendency of prices is unmistakably in favor of buyers, who purchase very sparingly in anticipation of a further material reduction in values.

The Financial Wonder.

"Five Choctaws, Alexander, and Ninety-four Iron."—These brief words, sent over the wires on May 9th, by Messrs. Fisk & Hatch of this City, were of startling significance. They indicated the largest subscription ever before made at one time to a Government Loan by a single firm, at least in this country. As many may have already learned, the General Subscription Agent of the **7-30 U. S. Loan,** Jay Cooke, has devised a set of words for different sums, which saves a great deal of telegraph expense. Thus, "Lath" stands for the $50 U. S. 7-30 Bonds; "Iron" for $100s, "Brick" for $500s; "Stone" for $1,000s; "Marble" for $5,000s; "William" for $20,000s; "Alexander" for $50,000s; "Mary" for $90,000s; "Emily" for $100,000s; "Choctaw" for $1,000,000; and other names for several intermediate sums. So when Messrs. Fisk & Hatch telegraphed for "Five Choctaws, Alexander, and Ninety-four Iron, Seven-Thirties," they ordered **$5,059,400!** (This subscription they made on the day they changed to their new and larger rooms at No. 5 Nassau-street, near Wall-street, as noted in an advertisement elsewhere). So large a subscription took every one by surprise, but on the same day thousands of others from all parts of the country sent in smaller sums, and the result was, that over **15** Million Dollars were subscribed on that day. This was talked of all through the city and country, as well it might be, for we well remember how hard it was four years ago to get a government loan of only $9,000,000 all told. Yet the subscriptions were not to stop here. The next day May 10th, the people took $17,000,000, the next day nearly $14,000,000, and the next day over **$42**,000,000! while for the week the subscriptions run up to over **One Hundred and Ten Millions of Dollars!** Nothing like this has ever been known before, in any nation in the world. And what is more, many other hundreds of millions have been but recently subscribed, and are being subscribed. It shows the unbounded confidence of the people in the stability of our government. In fact the people are The Government, and they are merely lending money to themselves.

Advertisements.

Advertisements, to be sure of insertion, must be received BEFORE the 10th of the preceding month.

N. B.—*No Advertisement of Patent Medicines or secret remedies desired. Parties unknown to the Editors personally or by reputation, are requested to furnish good references. We desire to be sure that advertisers will do what they promise to do. By living up to these requirements, we aim to make the advertising pages valuable not only to the readers, but to the advertisers themselves.*

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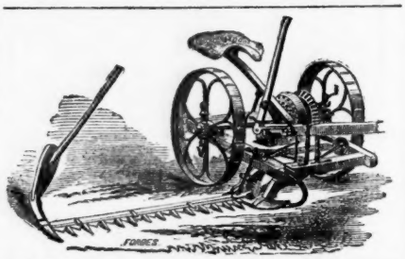

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This Machine having been fully tested for the last four years, is recommended with confidence as the most complete and efficient in the market. It is capable of cutting grass, light or heavy, wet or dry, lodged or standing, and with *strength, durability, ease of draft, light weight,* and efficiency, it combines many minor conveniences, not found in other machines. PASCHALL MORRIS,

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The attention of New York farmers is called to this new invention for spreading and turning Hay; second only to the Mower, in practical usefulness on the farm. It is simple in its construction, effectual in its operation, and wonderfully labor-saving. It has been thoroughly tested and has never failed to give satisfaction. No farmer who wishes to have well-cured hay can afford to do without it. Price for 8 Fork Machine with Pole or Thills, $100. 6 Fork ones with Thills $85, deliverable in Syracuse, N. Y., or in New York City.

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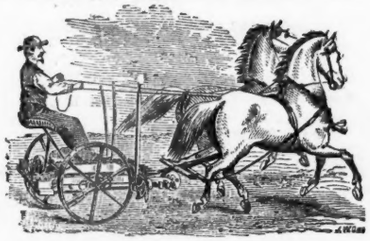

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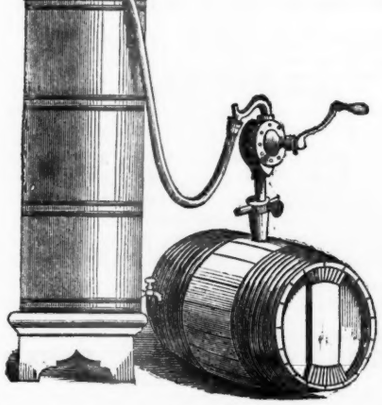

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Arranged with the *Patent Barrel Attachment*, the most complete and perfect article ever invented for PUMPING OIL and ALL KINDS OF LIQUIDS from BARRELS and other CASKS up into CANS, TANKS, &c. A most invaluable Fixture for OIL STORES, OIL REFINERIES, DRUG STORES, PAINT MANUFACTORIES, &c., &c. We make two regular sizes of this Barrel Pump, viz.: Nos. 1 and 2. No. 1 will pump from 8 to 10 gallons, and No. 2, from 16 to 20 gallons per minute. Orders respectfully solicited by

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BEST FARMING LANDS in the WORLD

FOR SALE BY THE

ILLINOIS CENTRAL RAILROAD CO.,

In Tracts to suit Purchasers, AT LOW PRICES.

THE ILLINOIS CENTRAL RAILROAD COMPANY HAVE FOR SALE,

900,000 ACRES of the best Farming Lands in the Country.

The road extends from Dunleith, in the north-western part of the State, to Cairo, in the extreme southern part, with a branch from Centralia, one hundred and thirteen miles north of Cairo, to Chicago, on the shore of Lake Michigan—altogether a length of 704 miles—and the land which is offered for sale is situated upon either side of the track, in no instance at a greater distance than fifteen miles.

State of Illinois.

The rapid development of Illinois, its steady increase in population and wealth, and its capacity to produce cheap food, are matters for wonder and admiration. The United States Commissioner of Agriculture estimates the amounts of the principal crops of 1864, for the whole country, as follows: Indian corn, 530,581,403 bushels; wheat, 160,695,823 bushels; oats, 176,690,064 bushels; of which the farms of Illinois yielded 138,356,135 bushels of Indian corn; 33,371,173 bushels of wheat; and 24,273,751 bushels of oats—in reality more than one-fourth of the corn, more than one-fifth of the wheat, and almost one-seventh of the oats produced in all the United States.

Grain—Stock Raising.

Pre-eminently the first in the list of grain-exporting States, Illinois is also the great cattle State of the Union. Its fertile prairies are well adapted by nature to the raising of cattle, sheep, horses and mules; and in the important interest of pork packing, it is far in advance of every other State. The seeding of these prairie lands to tame grasses for pasturage or hay, offers to farmers with capital the most profitable results. The hay crop of Illinois in 1864 is estimated at 2,166,725 tons, which is more than half a million tons larger than the crop of any other State, excepting only New York.

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The attention of persons, whose limited means forbid the purchase of a homestead in the older States, is particularly invited to these lands. Within ten years the Illinois Central Railroad Company has sold 1,400,000 acres, to more than 20,000 actual settlers: and during the last year 264,422 acres—a larger aggregate of sales than in any one year since the opening of the road. The farms are sold in tracts of forty or eighty acres, suited to the settler with limited capital, or in larger tracts, as may be required by the capitalist and stock raiser. The soil is of unsurpassed fertility; the climate is healthy; taxes are low; churches and schools are becoming abundant throughout the length and breadth of the State; and communication with all the great markets is made easy through railroads, canals and rivers.

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The price of lands varies from $9 to $15 and upwards per acre, and they are sold on short credit, or for cash. A deduction of *ten per cent.* from the short credit price is made to those who buy for cash.

EXAMPLE:

Forty acres at $10 per acre, on credit; the principal one-quarter cash down—balance one, two and three years, at six per cent. interest, in advance, each year.

	INTEREST.	PRINCIPAL.		INTEREST.	PRINCIPAL.
Cash Payment,	$18 00	$100 00	Payment in two years,	$6 00	100 00
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The Same Land may be Purchased for $360 Cash.

Full information on all points, together with maps, showing the exact location of Lands, will be furnished on application, in person or by letter, to

LAND COMMISSIONER, Illinois Central R. R. Co., Chicago, Illinois.

The Clipper one Horse Mower

is adapted to every variety of surface, and to cutting every kind of grass.

This Machine is capable of cutting three-fourths to one acre of the heaviest grass per hour, and can be drawn as easily by one horse as ordinary two-horse Mowers by two horses.

The height of cut can be varied by the driver while the Machine is in motion, and without leaving his seat. It is simple, durable, and not likely to get out of order.

Two-Horse Mowers and combined Machines of the same pattern.

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THE HORSE POWER is worked by either wheel or capstan, and in many respects possesses unequalled advantages. We invite those wanting such machines to write for a catalogue containing full information with cuts, prices, &c., or call and examine personally.

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Embracing a description of the Soil and Products of Maryland.

Send Twenty-five Cents for a Copy.

SECURE A HOME.—Lands for sale in the Celebrated Fruit Settlement of Hammonton, New Jersey, 30 miles from Philadelphia, on Railroad, and near the New York Railroad.—No better soil in the State.—For Fruits, Vegetables and Early Gardening, is the best in the Union.—Hundreds of Acres now producing to be seen, on which is made from $200 to $600 per acre. Mild and healthy climate. Soft Water, Churches, Schools, Mills, Stores, &c. Price from $20 to $25 per acre, for 20 acres and upward. 10-acre fruit farms, $300. Terms easy. Title perfect. For full information Address R. J. BYRNES, Hammonton, N. J. Letters answered.

Cheap Maryland Farms.

$10 to $30 per acre, convenient to Railroad, Navigation, Churches, Schools, &c., &c., situated on the Eastern Shore. Many northern families are settling here. Descriptive circulars giving all information sent free to all applicants.

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FARMS FOR SALE of 40 to 180 acres each, of the richest agricultural land in Rock Co., Wis., near Janesville City, well timbered. The Madison railway runs through, and the Southern Wisconsin on their border. Apply to J. I. R. PEASE, Janesville, or to B. F. DAWSON, 9 East 15th-street, New York.

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Purchase and Sell Real Estate of all descriptions. Attend to the **Payment of Taxes,** for non-residents; and the development or sale of Mineral Lands.—Have extra facilities for placing Capital seeking investment in Western Lands.—Will loan monies on productive Real-Estate Security, in City or Country as may be desired.

Emigrants seeking Homes, or **Agents for Colonies** desiring to locate large bodies of Lands will find it to their advantage to apply to this Company.

All Communications promptly answered without charge.

The undersigned is personally acquainted with the above named Gentlemen, and cheerfully testifies to their high respectability, trustfulness, and ability as business men.

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Gently rolling Prairie, interspersed with groves of timber. One of the finest agricultural districts in the West, is now just opened out to the convenience of Railroad facilities and market. Its geographical location, adaptation to FARMING, GARDENING and DAIRYING, is unsurpassed in the West. This beautiful and desirable section of country is located 30 to 40 miles southeast of the City of Chicago, Illinois, comprising the Middle and Southern portion of the Co. of Lake, Indiana.

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Call attention to the planting of **EVERGREENS** for which this month is the time.

No class of trees will so enliven the lawn or pleasure grounds during the winter season.

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Also of small size the following more rare varieties.

DWARF NORWAY SPRUCE.
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CAMELLIAS, in excellent health.
STOVE PLANTS in variety.
RHODODENDRONS, both seedling and worked plants, and in great variety of color.

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LONG WHITE FRENCH,	"	10 "	"	1
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Pure **LONG ORANGE CARROT SEED** can be sown in this latitude up to the first of July.

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and numerous other valuable varieties, both old and new. We thank our customers for the liberal patronage they have bestowed, and assure them and all interested in vine and grape culture that no care or expense will be spared the present season to bring our vines to the HIGHEST STANDARD.

Our Prices will merit the attention of **Dealers** and **Planters. Responsible Agents** are wanted in every town to form clubs, or to spend the season in canvassing. Large commission will be given to such as can furnish reliable references; none others need apply.

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10,000 Delaware.
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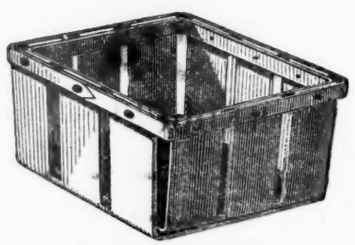
Best and Cheapest Fruit Basket in the World.



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Substantial Crates, to hold from 12 to 96 quart baskets, and so arranged that *the berries can not spill out,* even if the Crates are overturned.

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They are made with a shallow pit, or with no pit at all, according to location, as the purchaser may prefer.

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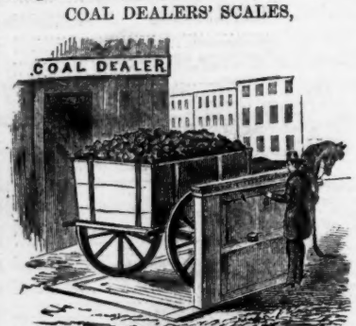

Similar in their construction to the Hay Scale. Used extensively by coal dealers and miners, also in Iron Houses and Founderies. Capacity—Two, Three, Four tuns. This Scale may be set in the barn-floor or elsewhere, and used for weighing Hay, Grain, Live Stock, &c. It may be either stationary or so arranged as to be easily removed from place to place when required. Coal dealers and others who are about purchasing Scales will do well to examine the evidences upon which we base our claim for superiority.

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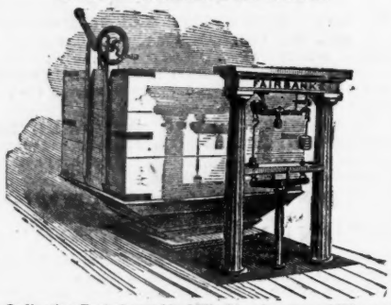

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No. 7.....2,000 lbs.
No. 9.....1,500 lbs.

These modifications are fitted with drop levers by which the platform is raised, with its load, to be weighed and then lowered, so that the outer edge rests upon and forms a part of the floor. They are found exceedingly convenient, inasmuch as the space which they occupy in the floor can be appropriated, when the Scale is not used for weighing, to the ordinary business of the store.

ROLLING-MILL SCALES.

These are very heavy and durable, and are designed for use in Founderies, Rolling Mills, Iron Manufactories, &c.

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No. 7	2,000 pounds
No. 8	1,600 pounds
No. 9	1,400 pounds
No. 10	1,200 pounds
No. 10½	900 pounds
No. 11	600 pounds
No. 11½	400 pounds

They are convenient, accurate, and not liable to derangement.

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No. 1—With brass scale beam—weighing from one-fourth of an ounce to ten pounds.
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